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THE GIFT OF
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A "CHUMMER."

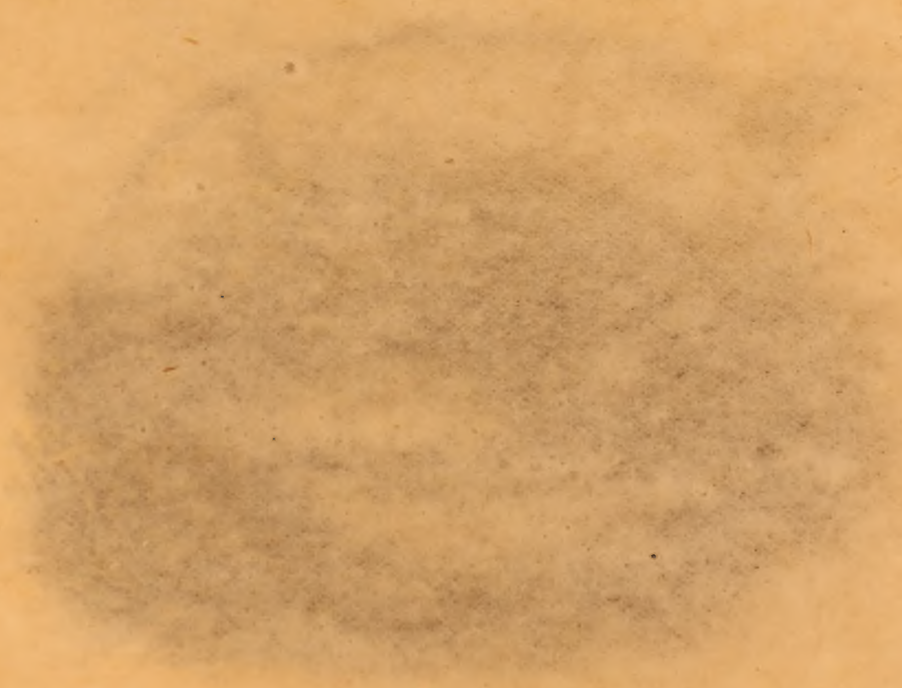
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SPORT
WITH GUN AND ROD
IN
AMERICAN WOODS AND WATERS

EDITED BY

ALFRED M. MAYER

PROFESSOR IN
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NEW YORK
THE CENTURY



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VOLUME II



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STRIPED BASS.

By FRANCIS ENDICOTT.

TO the lover of rod and reel, the striped bass, or rock-fish, as he is called south of Philadelphia, is the most important of all our sea fish. His habitat is so extended and his stay with us so constant; he is so eagerly sought for by anglers of all classes and conditions of life; he affords such sport in the various stages of his growth, from the puny half-pounder found almost everywhere on our Atlantic coast, to the enormous "green-head" who makes his home in the break of the surf; he brings into play such a variety of tackle, from the pin-hook of the urchin fishing from the city docks, to the rods and reels of the crack bass-fisherman,—that he well merits the title which is sometimes bestowed on him of the game fish *par excellence* of the sea.

A bright August morning found the writer, in company with a member of the Cuttyhunk Club, steaming down the bay from New Bedford, bound for a trip to the Elizabeth Islands and Martha's Vineyard, and for a bout with the large bass which frequent the rocky shores of those favored regions.

Arriving at the mouth of the harbor, as our little craft steams around Clark's Point and enters Buzzard's Bay, the whole range of the Elizabeth Islands comes into full view, and we find ourselves trying to repeat the old verse by which our ancestors remembered their uncouth Indian names:



"Naushon, Nonamesset,
Uncatema and Wepecket,
Nashawena, Pasquinese,
Cuttyhunk and Penikese."

There is a mysterious influence at work in these regions which seems to gather the sea-fogs and hold them suspended around the islands, shutting them in completely, while all about, the atmosphere is clear. As we approach the land we observe this phenomenon, and are soon lost in its dense vapors. We steam along slowly, our fog-whistle shrieking at intervals, and every eye strained forward for rocks or vessels which may be in the way, until presently we hear a distant fog-horn answering us, and following it we find ourselves among a fleet of sword-fishermen anchored for the night in Cutty-hunk Bay. There is more music by the steam-whistle with an



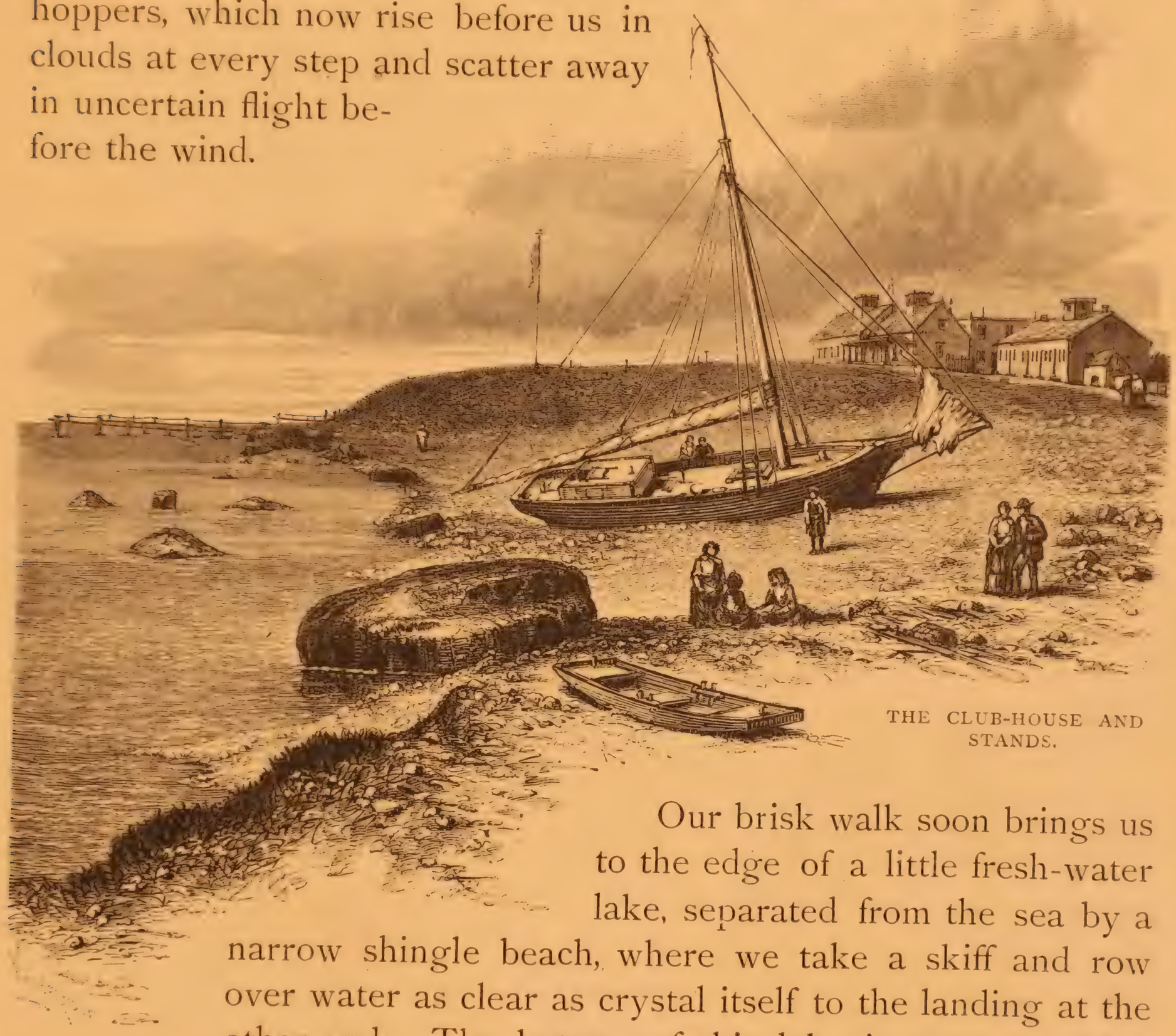
GOSNOLD'S ISLAND, CUTTYHUNK.

answering shout from the shore, and in a few moments the stroke of oars is heard upon the water. A skiff gropes its way toward us through the fog, we gather our baggage together, and are landed on the shingly beach, where, after a short walk, we find ourselves safe under the comfortable roof of the club-house.

As the tide does not serve until late, we breakfast at the usual hour, and, having tested our line and seen that everything is in order, with a good supply of spare hooks, we start for a brisk walk over the hills, preceded by Perry, our "chummer," bearing a basket full of lobsters and menhaden for bait.

Bleak and uninteresting as these hills appear when seen from the water, every now and then we come unexpectedly on some little gem of picturesque beauty, which is none the less charming from the exceeding plainness of its setting. We hear, too, the abrupt notes

of the upland plover, wildest of all game-birds, as he rises at a safe distance and speeds his flight to far-off hills. A little later in the season, large flocks of golden plover will stop on their way south and make it lively for the grasshoppers, which now rise before us in clouds at every step and scatter away in uncertain flight before the wind.



THE CLUB-HOUSE AND STANDS.

Our brisk walk soon brings us to the edge of a little fresh-water lake, separated from the sea by a narrow shingle beach, where we take a skiff and row over water as clear as crystal itself to the landing at the other end. The bottom of this lake is covered with a growth of aquatic vegetation, which seems as though it might harbor sufficient insect life to feed millions of fish; while in the shallows water-lilies grow in profusion, their dark-green leaves crowding each other on the surface, leaving scant room for the snowy petals to shoot up and unfold themselves. Some years ago, the club placed several thousand young trout in the lake, but they did not appear to thrive, or, rather, they disappeared mysteriously; whether they escaped through some under-ground outlet to the sea, or whether they furnished food to the enormous eels which inhabit these waters, is a question difficult of solution. The lake is now stocked with black bass, and the experiment bids fair to succeed.

Arrived at our destination,—a large granite bowlder, known as Bass Rock, which stands out some distance from the shore and is connected with it by a narrow planking supported on iron rods,—we occupy the seat at the end of the jetty while our chummer, standing behind us, baits the hook with a lobster-tail, and we cast out toward two or three rocks where the waters are swirling with the incoming and receding waves.

The chummer is an important man in his way. He is generally a native of the island, and has done much fishing in his life-time and seen much more. His office is no sinecure; besides keeping four or five baits peeled ready for use, he breaks up the bodies and claws of the lobsters, and chops the head and shoulders of the menhaden into small bits, and throws them out upon the water with an odd-looking wood-and-tin ladle called a "chum-spoon." Without the chum you might catch an occasional straggler, but there is nothing to attract the attention of the fish, and it is only by accident, as it were, that they happen upon the solitary bait with which you are fishing.

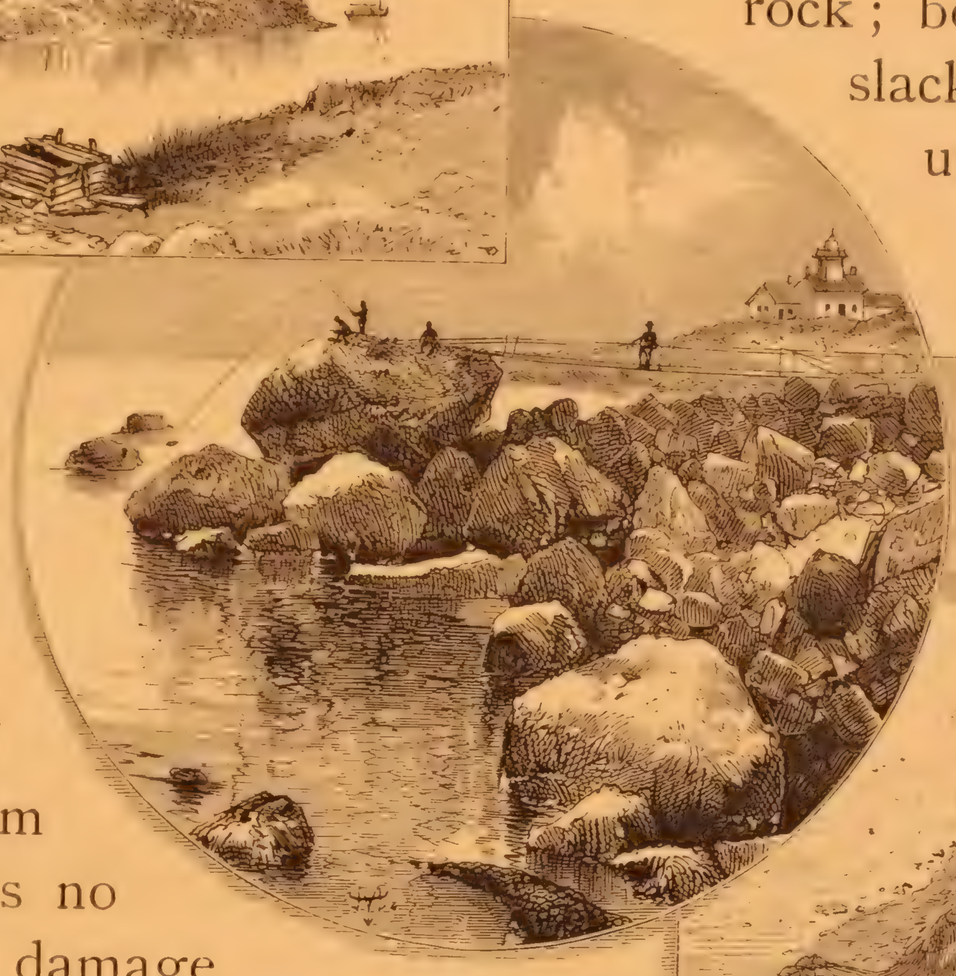
But stop! that fellow takes hold as though he meant it, and is laying his course straight for Newport; we must try and stop him short of that. The line whizzes out from the reel, and our thumb would be blistered in a moment were it not for the double worsted thumb-stall which protects it. Perry says he's a twenty-pounder, at least, and he feels like it, for the rod is bent to the curve so beautiful in the eyes of an angler, and the line is strained to the utmost tension. There! he stops and breaks on the surface. How broad his tail looks as he lashes the water in impotent wrath! The worst of his run is over; reel him in carefully, keeping the killing strain on him all the time. He will make two or three more short dashes, and then you may lead him as gentle as a kitten to where Perry stands, with his gaff-hook, ready to reach down and take him in out of the wet. It is a pity to strike the cruel steel into his silvery sides, but it would be dangerous to attempt to land him among the rocks in-shore.

It is true that chumming attracts other less desirable fish. Your blue-fish has an insatiable appetite and a keen nose for a free lunch. We say this ruefully, as we reel in and put on a fresh hook to replace the one just carried away. Egad! that fellow struck like a forty-pound bass, and cut the line as clean as though he had carried a pair of scissors! What a game fish he is! He fights to the very last,

and only comes in when he fears that the struggle is becoming monotonous.

What's that—another blue-fish? No, his pull is too steady; it's a bass, surely! This one strikes off in another direction; he lays his course as though he were bound for Pasque Island. There, he has taken the line around that rock; better to give him slack and risk his unhooking himself than have the line frayed and perhaps parted against the sharp granite edges. Now he's off again; handle him tenderly: there's no knowing what damage that rub may have done to the slender line—phew! how cold the water is! That wave struck flat against the rock which supports the seat, and drenched us.





ON THE ISLAND.



There is no royal road to this heavy surf-fishing; with all the appliances for comfort which experience can suggest, there is a certain amount of hard work to be done and exposure to be borne as a part of the price of success. Father Neptune is no respecter of persons, and spatters his royal favors so lavishly and so impartially on the just and the unjust that, unless you are a believer in the 'longshore theory that "salt water never hurts nobody," and can take a thorough soaking philosophically and as a matter of course, you had better give up all thought of being a bass-fisherman. It is somewhat trying to the nerves to have a barrel of salt water dashed unexpectedly in your face, sousing you in an instant from head to foot, and at times, when there is a heavy sea running, it is dangerous.

Cases are upon record where anglers have been washed from the rocks, and have narrowly escaped with their lives. Even on these stands it is not always safe, although they are supposed to be above high-water mark. Sometimes, during the spring-tides, when the wind has lashed the sea into a fury, or a distant storm is lending additional force to the breakers, the fisherman will sit securely on his



ON THE WAY TO THE STANDS.

perch and see the white waters breaking angrily among the rocks under his feet. The tide rises higher, but he gives little heed to it, as in such perturbed waters he expects to meet with his greatest success,—perhaps catch the fish which shall make him "high-hook" for the year. The caps of the higher waves sweep over the sag of the narrow plank which connects him with the shore, while the crests of one or two bolder than the rest have lapped his feet with their icy tongues; still he continues to cast, encouraged by the taking of one or two fish, or by the strike of some fish of unknown size, until he is wet to the knees, though the tide cannot be more than three-quarters high. An exclamation from his chummer causes him to look up, and a sight meets his eye which, for a moment, appalls him —an enormous, unbroken roller, stretching the length of the coast, and coming on at race-horse speed, followed by two others equally



FISHING FROM THE STANDS.

formidable,—for your big fellows generally travel in threes. Escape is impossible, and his only recourse is to hold on tight and take his ducking with what equanimity he can command, when, if he be sensible, he will watch his opportunity and make for the shore, a wetter and a wiser man. Seth Green got caught in this way, on this very rock from which we are now fishing, and retired drenched to the skin, but only for a time; the bass were biting freely, and the "great father of fishes," procuring a rope, lashed himself to the seat, and, in spite of the warnings and remonstrances of his friends, continued his sport, with the waves occasionally making a break clear over his head. Perry tells us this story in the intervals between chopping and chumming, and we notice that the pluck of the old man elicits from him an admiration which no amount of piscicultural skill could have commanded.

Another strike! This fellow betrays himself at the very start, for we see the cloven hoof, or rather the forked tail, which denotes that pirate of the deep, blue sea — the bluefish, and we bring him to gaff as soon as possible, using him rather roughly, for he is seldom alone, and his companions in iniquity are apt to cut him loose by striking at any bit of bait that may have run up on the line, or even at the line itself as it cuts rapidly through the water.

Perry opens this fish and brings us his paunch to examine; in it, besides many pieces of chum, are three hooks—one of them, with

the bait still on and a bit of the line attached, we identify as our property, which he feloniously purloined and converted to his own use this morning; the others, of strange make and corroded by the strong gastric juices, are evidently much older acquisitions.

But the bass have ceased biting; our stock of bait is reduced to a few shreds and patches, and the inner man calls loudly for repairs, so our chummer starts on ahead with the heavy load of fish, while we linger for a few minutes at the light-house, built on the rising ground between the lake and the sea, to have a chat with the keeper.

Truly, this is classic ground. Lying almost within a stone's-throw of us, snugly nestled in the bosom of the black-bass pond, is the little island called after Bartholomew Gosnold, that mighty navigator whose name has come down to us in a blaze of posthumous glory as the discoverer of Cape Cod.

In the year 1602, eighteen years before the founding of the Plymouth colony, Gosnold built a store-house and began a fort on this islet and did some trading with the Indians. That he had but little faith in their friendliness is evidenced by his building his stronghold on this island within an island, and in fact history gives the aboriginal natives of Cuttyhunk but a sorry character as neighbors. Dr. Belknap visited the island in 1797, and discovered what he supposed to be the remains of the cellar of Gosnold's store-house, whereupon a later historian breaks forth in this wise: "It is a vestige of the first work performed by Europeans on the New England shores. Here they first penetrated the earth; here the first edifice was erected. Only two centuries have passed away, and from this humble beginning have arisen cities, numerous, large, and fair, in which are enjoyed all the refined delights of civilization."

The first duty of your chummer, on returning from the stand, is to see that the bass are weighed on a pair of scales hanging at the corner of the piazza. This is done in the presence of two members of the club, to avoid—mistakes, the result being entered on a blank slip, which is retained until evening, when the score of each member for the whole day is duly entered opposite his name on the records. Our score for the morning's work shows three bass, weighing eighteen and one-half, sixteen and one-half, and nine pounds. Glancing over the leaves of the record-book, we find some interesting items, which we copy—premising that the season in each year



A GOOD CATCH.

lasts but four months, extending from the middle of June to the middle of October. The honorary title of "high-hook" is conferred on the member taking the largest fish of the season.

On the opening day of the club in June a great deal of sport is sometimes occasioned by the anxiety of the members to wear this coveted honor; and as the member catching the first fish, even if it weigh but four or five pounds, is "high-hook" and entitled to wear the diamond-mounted badge in shape of a bass hook which accompanies the title until a larger fish is taken, it frequently happens that the title and badge will change hands three or four times during the day.

Year.	Weight of bass caught.	High-hook.	Largest fish.
1876	5862	W. R. Renwick	51 lbs.
1877	3311	W. McGrorty	51½ "
1878	5444	T. W. Van Valkenburgh	51 "
1879	4841	H. D. Polhemus	49 "
1880	3619	Andrew Dougherty	50¼ "
1881	1784	W. McGrorty	44 "
1882	2026	W. R. Renwick	64 "

On the following morning we leave our hospitable friends, our destination being Gay Head. We can see its many-colored cliffs from the club-house, across the Vineyard Sound, only eight miles away; but the wind is contrary and the water too rough for the small boat at our disposal, so we conclude to return to New Bedford by the more tranquil waters of Buzzard's Bay, and take the steamer thence

Description of the Commodities and Discommodities of that Countrey. Written by a Reuerend Divine (Mr. Higginson), now there resident. London, 1630":

"Of these fish (the basse) our fishers take many hundreds together, which I have seen lying on the shore to my admiration; yea, their nets ordinarily take more than they are able to hale to land, and for want of Boats and men they are constrained to let a many goe after they have taken them, and yet sometimes they fill two boates at a time with them."

The famous Captain John Smith, "sometime Governor of Virginia & Admiral of New England," wrote in a little book entitled "Advertisements for the Inexperienced Planters of New England, or Anywhere; or, The Pathway to Experience to Erect a Plantation. London, 1631:"

"The seven and thirty passengers, miscarrying twice upon the coast of England, came so ill provided they only relyed upon the poore company they found, that had lived two yeares by their naked industry and what the country naturally afforded. It is true, at first there hath beene taken a thousand Bayses at a draught, and more than twelve hogsheads of Herrings in a night."

Sturdy John Josselyn, gent., who never hesitated to use a word because of its strength, writes, in his "Account of Two Voyages to New England in 1675":

"The Basse is a salt-water fish, too, but most an end *(sic)* taken in Rivers, where they spawn; there hath been three thousand Basse taken at a set. One writes that the fat in the bone of a Basse's head is his brains, which is a lye."

In a curious poetical description of the colony, entitled "Good News from Nevv England, with an exact relation of the First Planting that Countrey," printed in London, 1648, these lines occur:

"At end of March begins the Spring by Sol's new elivation,
Stealing away the Earth's white robe dropping with sweat's vexation,
The Codfish, Holybut, and Basse do sport the rivers in,
And Allwifes with their crowding sholes in every creek do swim."

Truly, our ancestors must have had glorious opportunities for sport, though it may be considered doubtful whether those stern-visaged men, whose features had grown grim in facing the hard realities of their pioneer life,—sickness, starvation, and an ever-

present and treacherous foe,—found time to "go a-angling," except as a means of warding off famine from their wives and little ones.

There is something very pathetic in the accounts of their fishing

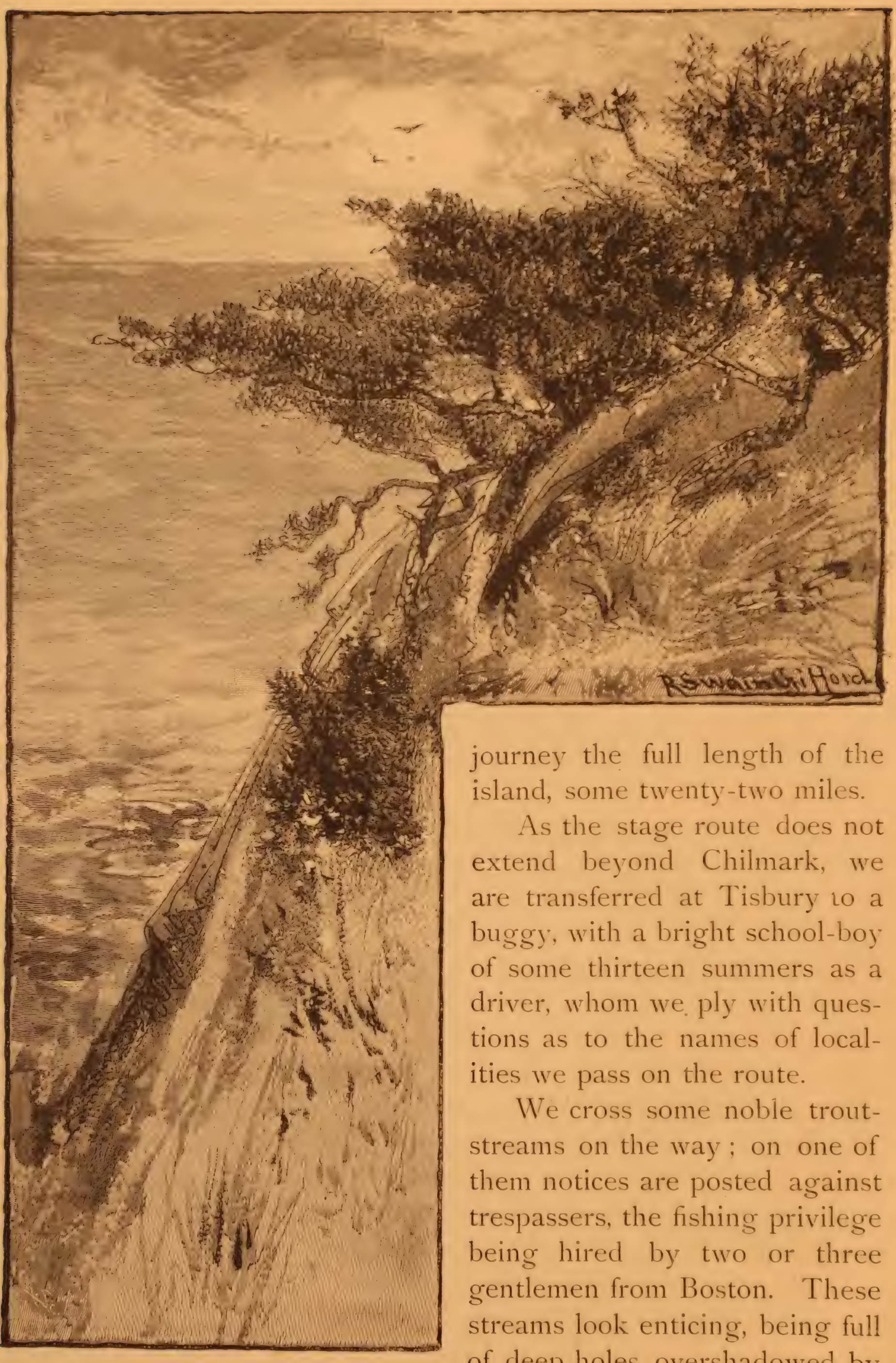


STRIPED BASS OR ROCK FISH. (LABRAX LINEATUS.)

trips as given in Bradford's "History of Plymouth Plantation." It presents the reverse of the rose-colored pictures of Morton and Higginson:

> "They haveing but one boat left, and she not well fitted, they were divided into severall small companies, six or seven to a gangg or company, and so wente out with a nett they had bought to take bass & such like fish, by course, every company knowing their turne. No sooner was ye boate discharged of what she brought, but ye next company tooke her and wente out with her. Neither did they returne till they had caught something, though it were five or six days before, for they knew there was nothing at home, and to goe home emptie would be a great discouragemente to ye rest."

At New Bedford, we take the steamer for Oak Bluffs, and sail down across Buzzard's Bay and through the narrow strait called Wood's Hole, whose troubled waters bear a close resemblance to those of Hell Gate. Rare bass-fishing there must be in these circling eddies, and we half mature a plan to stop on the way home and have a day at them. Emerging from the Hole into the Vineyard Sound, we steam away for the headlands of Martha's Vineyard, visible in the distance, and in due time haul up at the wharf of that marvelous city of cottages, and take the stage to commence a tedious



journey the full length of the island, some twenty-two miles.

As the stage route does not extend beyond Chilmark, we are transferred at Tisbury to a buggy, with a bright school-boy of some thirteen summers as a driver, whom we ply with questions as to the names of localities we pass on the route.

We cross some noble trout-streams on the way; on one of them notices are posted against trespassers, the fishing privilege being hired by two or three gentlemen from Boston. These streams look enticing, being full of deep holes overshadowed by

scrubby alders—the lurking-place of many a large trout, if we may believe our young guide. The trout should be full of game and fine-flavored in these streams—pink-fleshed, vigorous fellows, such as we find in the tide-water creeks of Long Island



THE LIGHT-HOUSE AT GAY HEAD.

and Cape Cod, who take the fly with a rush that sends the heart jumping into the throat.

As we approach Menemsha Bight, the roads are heavy with recent rains, and the wheels sink deep in the sandy soil. A queer little popping sound, apparently coming from under the wagon, excites our curiosity; we lean over to ascertain the cause, and find the ground covered with myriads of small toads, any one of which could sit comfortably on a dime with room to spare. Some of these, getting caught in the deep rut of the road, struggle feebly to leap over the barrier, and failing in the attempt, the wheels pass over them, each one exploding under the weight with a faint pop, and flattening out into a grotesque exaggeration of his former self, that reminds us of one of the pantomime tricks of the Ravel family.

It is dark when we reach Gay Head, and as we drive up to the door of the keeper's house, which adjoins the light-house, a voice from some unknown region cheerily invites us to enter. We look around for the owner, but see no one to whom the voice could belong. Overhead, long, slanting bars of white-and-red light flash through the powerful Fresnel lenses in every direction, looking like bands of bright ribbon, cut bias against the darkness of the sky beyond, while

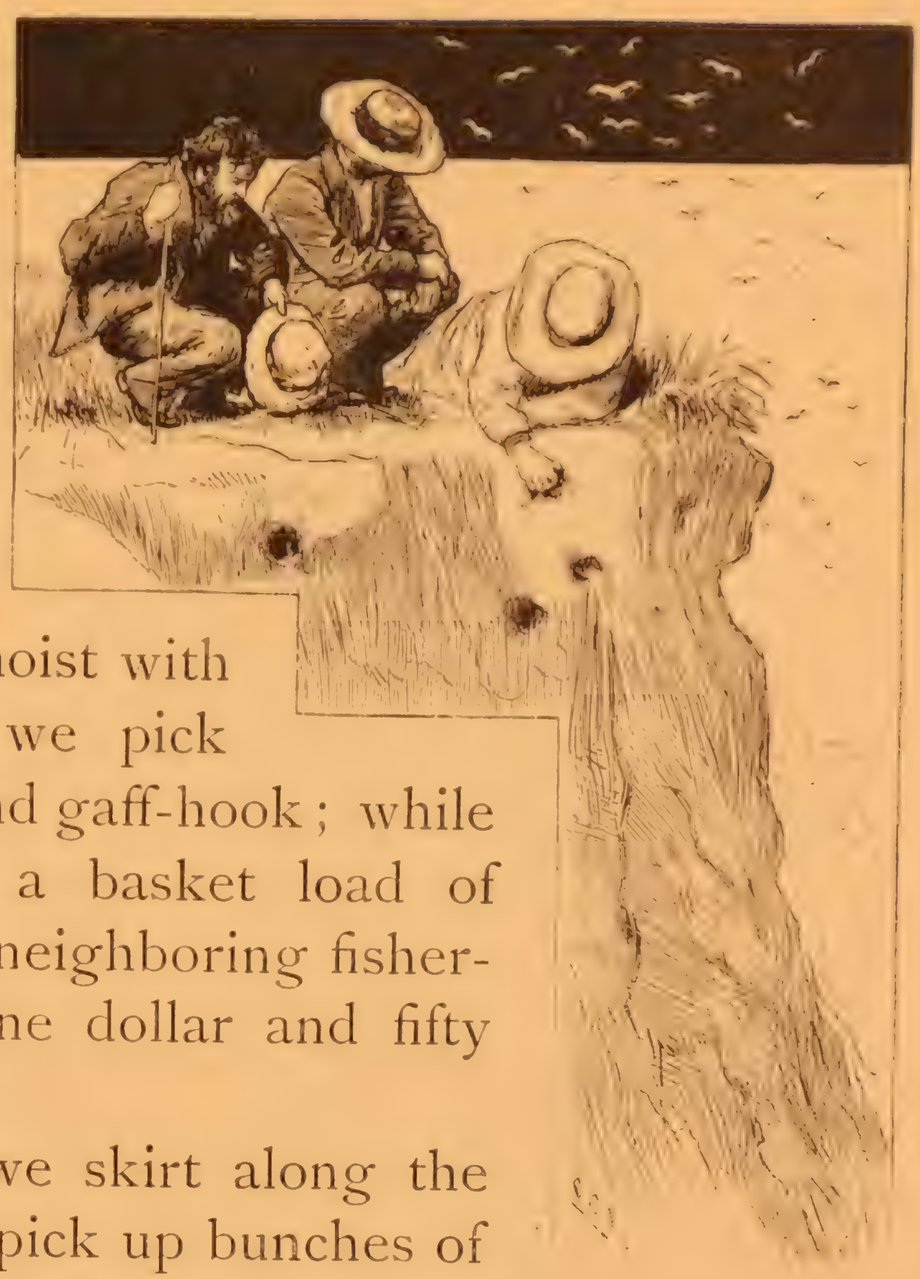
millions of insects dance in the broad rays, holding high carnival in the almost midday glare. The mysterious voice repeats the invitation, and without more ado we gather our baggage together and enter a cozy sitting-room, where we proceed to make ourselves very much at home. Here we find Mr. Pease, the keeper of the light, who has descended from his lantern, and a gentleman from New Bedford, who gives but poor encouragement in regard to the fishing. He has been here for a week past, and has not caught a solitary bass in all that time; but he tells us such soul-stirring yarns of fish caught on previous visits, and all told with a modesty which attests their truth, that our spirits are restored at once.



The inhabitants of the town of Gay Head, with the exception of the light-keeper's family, are of somewhat mixed blood. They are called Gay Head Indians, but their features betoken a liberal intercourse with a darker complexioned race; there is a flatness of the nose and an inclination to curliness in the hair which denote anything but an uninterrupted descent from the warlike tribe that Bartholomew Gosnold found in possession of these islands. The last one among them who could build a wigwam died some years ago, and with him died this invaluable secret.

Here there is room for the moralist to make some wise reflections on the vanity and evanescence of all human greatness, and to draw the parallel between this people's present peaceful occupations of farming and berry-picking (we even saw a young squaw who was engaged in a family as seamstress), and the Puritan-roasting, scalp-raising, and other cheerful and innocent diversions which obtained among their ancestors. But we confess we would rather go fishing than point morals, any day, and our acquaintance with this people is confined to the young brave of some twelve summers whom we engaged in the morning as our henchman, to procure and cut up bait.

The cliffs at Gay Head are interesting alike to the artist and the geologist, and possess still another interest for the angler, who has to carry fifty pounds of striped bass up their steep and slippery incline. They are of clay formation, broken and striated by the washings of centuries, and when lighted up by the sun present a brilliantly



variegated appearance, which undoubtedly gave the promontory its name. Black, red, yellow, blue, and white are the colors represented, all strongly defined, and on a clear day, discernible at a great distance. Down their steep sides, our feet sticking and sliding in the clay, moist with the tricklings of hidden springs, we pick our way slowly, bearing our rod and gaff-hook; while our little Indian staggers under a basket load of chicken-lobsters, purchased of the neighboring fishermen at the extravagant rate of one dollar and fifty cents per hundred.

At the bottom of the cliffs we skirt along the beach, stopping now and then to pick up bunches of Irish moss, with which the shore is plentifully lined, until we come to three or four large granite bowlders lying at the edge of the water, and offering such attractions as a resting-place that we stop and survey the field to select our fishing-ground.



ON THE BEACH.

Across the Vineyard Sound, about eight miles away, and stretching out far to the eastward, are Cuttyhunk, Nashawena, and Pasque Islands; and about the same distance to the south-westward, the little island of No Man's Land is plainly visible in the clear atmosphere —even to the fishermen's huts with which it is studded. It is a

notable place for large bass, and wonderful stories are told of the catches made there—how, on one occasion, when the fish were in a particularly good humor, three rods caught twelve hundred and seventy-five pounds of striped bass in a day and a half.

Looking out seaward some thirty or forty yards, we see three rocks heavily fringed with sea-weed, which rises and spreads out like tentacles with the swell of the incoming tide, and clings to the parent rocks like a wet bathing-dress as the water recedes and leaves them bare. We like the appearance of this spot—it looks as though it might be the prowling-ground of large fish; and we adjust our tackle rapidly and commence the assault.

Into the triangle formed by these rocks we cast our bait again and again, while our attendant crushes the bodies and claws of the lobsters into a pulp beneath his heel, and throws handfuls of the mess out as far as his strength will allow. He appears to have inherited some of the taciturnity of his red ancestors, for not a superfluous word do we get out of him all day long; all efforts to lead him into conversation are met by monosyllabic answers, so that, after many discouraging attempts, we imitate his reticence and are surprised to find with how few words we can get along. A nod of the head toward the sea brings him into immediate action, and he commences to throw out chum vigorously, like a skillfully made automaton; a nod of another significance, and he brings three or four fresh baits and deposits them silently on the rock at our feet.



Thus we fish faithfully all the morning, buoyed up by the hope which "springs eternal" in the breast of the angler, but without other encouragement of any kind. Many nibblers visit our bait and pick it into shreds, requiring constant attention to keep the hook covered, while rock-crabs cling to it viciously as we reel in, and drop off just as we are about to lay violent hands on them.

The flood-tide, which had commenced to make when we arrived, is now running fast, and has risen so as to cover the rocks on our fishing-ground, leaving visible the dark masses of sea-weed which float to the surface by its air-cells, and wave mysteriously to and



FROM THE DEPTHS (BASKET FISH—ASTROPHYTON).

fro. The surf has risen with the tide, the water is somewhat turbid and filled with small floating particles of kelp or sea-salad, which attach themselves to the line and cause it to look, when straightened out, like a miniature clothes-line. Occasionally, a wave will dash up against the shelving rock on which we stand, and, breaking into fine spray, sprinkle us liberally, and as salt water dries but slowly, we are gradually, but none the less surely, drenched to the skin.

Suddenly, without the slightest indication of the presence of game-fish, our line straightens out, we strike quick and hard to fix the hook well in, the reel revolves with fearful rapidity and the taut line cuts through the waves like a knife, as a large bass dashes away in his first mad run, fear and rage lending him a strength apparently much beyond his weight. Of course, under the circumstances, the strain on the fish is graduated, but the weight of line alone which he has to draw through the water would be enough to exhaust even a fifty-pounder, and he soon tires sufficiently to enable us to turn his head toward land. As we pilot him nearer to the

shore, he acts like a wayward child, making for every rock which happens in the way, and as there are many of them, it requires no little care to guide him past the danger. Presently, however, the steady strain tells on him, his struggles grow weaker, his efforts to escape become convulsive and aimless, and we lead him into the undertow, where he rests for a moment until a wave catches him and rolls him up, apparently dead, on the shelving sand. As he lies stranded by the receding water, the hook, which has worked loose in his lip, springs back to our feet. Our little Indian sees the danger and rushes forward to gaff him, with a whoop suggestive of war-paint and feathers; but we push him aside hurriedly—no steel shall mar the round and perfect beauty of the glittering sides—and, rushing down upon him, regardless of the wetting, we thrust a hand into the fish's mouth and thus bear him safely from the returning waves; then we sit down on the rock for a minute, breathless with the exertion, our prize lying gasping at our feet, our nerves still quivering with excitement, but filled with such a glow of exulting pride as we verily believe no one but the successful angler ever experiences, and he only in the first flush of his hard-won victory.

But there is no time to gloat over our prey—bass must be taken while they are in the humor, and our chummer is already in the field, throwing out large handfuls of the uninviting-looking mixture; so we adjust a fresh bait and commence casting again, as though nothing had happened to disturb our serenity, only once in awhile allowing our eyes to wander to the little hillock of sea-weed and moss under which our twenty-five pound beauty lies sheltered from the sun and wind.

Another strike, another game struggle, and we land a mere minnow of fifteen pounds. And this is all that we catch; the succeeding two hours fail to bring us any encouragement, so we reel in, and painfully make our way up the cliffs, bearing our prizes with us.

We are eager for another day at the bass, but a difficulty presents itself; fish are perishable in warm weather, the bass in a less degree than many others, but still perishable, and we have no ice, nor is any to be purchased nearer than Vineyard Haven—which for our purpose might as well be in the Arctic regions. But we bethink us that we have friends at the Squibnocket Club, some five or six miles away, on the south-west corner of the island, and in the afternoon we persuade Mr. Pease to drive us over there.

The comfortable little club-house is built facing and adjacent to the water, and after supper, as we sit chatting over a cigar on the piazza, we look out upon the wildest water we have as yet seen. The shore is exposed to the direct action of the ocean, without any intervening land to break the force of the sea, and the white breakers fol-



ALONG SHORE.

low each other in rapid succession, lashing themselves against the rocks into a foamy suds, which looks as though it might be the chosen home of large bass—as, indeed, they say it is.

The following day is almost a repetition of the first—a long, profitless morning spent in fruitless casting, a sudden strike when we least expect it, and then the catching of three fish within an hour and a half. This capricious habit of the bass is very striking at times. Sometimes, day after day, they will bite at a certain hour, without reference to the height of the tide, and at no other time. Whether it is that they have set times to visit different localities, and only arrive at the fishing-ground at the appointed hour, or, whether they are there all the time and only come to their appetites as the sun indicates lunch-time, we cannot say.

Our trip is over, and we pack our things to return home. Stored in a box, carefully packed with broken ice, are five bass,—we take no account of two blue-fish of eight and ten pounds,—which weigh respectively twenty-five, fifteen, twenty-eight, twenty-one, ten pounds.



MONTAUK LIGHT.

If the reader should wish to enjoy this noble sport, the better plan by far is to purchase a share in one of the great bassing clubs, as at their comfortable quarters you can always be certain of bait, skillful chummers, and ice to preserve the fish when caught; and, moreover,



a good meal and a comfortable bed after a hard day's work, or play, as you choose to call it, are desiderata not always to be obtained at the country tavern where your lines may be cast. But should the intention be to fish only occasionally, then equally good sport may be had in the summer and early autumn months at Montauk Point, Point Judith, Newport, Cohasset Narrows, and many places along shore.



A seventy-two-pounder, caught by a gentleman of New York, is probably the heaviest bass that has yet been landed with rod and reel; and when it is considered that the line used would not sustain much more than one-third that amount of dead weight, and that every ounce of that seventy-two pounds was "fighting weight," some conception may be formed of the skill and patience required in its capture.

Verily there is nothing new under the sun. As I pen these lines regarding the capture of large fish with light tackle, there comes to mind the memory of a screed written in the long, long ago, and I step to the book-shelf, take down the volume, and transcribe for your

delectation, O reader, the quaint advice given by that sainted patroness of the angle, Dame Juliana Berners, nearly four hundred years ago. There is a flavor of mold about the fine old English, but it contains the sum and essence of all scientific angling. Here it is, crisp and fresh as when it was first written, though the hand that penned it has long since crumbled into dust, and the generation for whose "dysporte" it was "empryntyd" by Wynkyn de Worde have been casting their flies from the further bank of the Styx this many a long year:



FISHING A. D. 1496. (FROM "WALTON'S COMPLETE ANGLER.")

"And yf it fortune you to smyt a gret fish with a small harnays, thenne ye must lede hym in the water and labour hym there tyll he be drounyd and overcome; thenne take hym as well as ye can or maye, and euer be waar that ye holde not ouer the strengthe of your lyne, and as moche as ye may lete hym not come out of your lyne's ende streyghte from you; but kepe hym euer under the rodde, and euermore holde hym streyghte, so that your lyne may be susteyne and beere his lepys and his plungys wyth the helpe of your cropp and of your honde."





PORPOISE-SHOOTING.

By CHARLES C. WARD.

"CANOE ahoy-oy-oy!"

"Ahoy-oy-oy!"

"Where are you bound?"

"Indian Beach, Grand Menan."

"You can't fetch it, in this wind and sea; better come aboard the schooner."

The hail came from an outward bound pilot-boat, running down the Bay of Fundy, close-reefed, in a strong breeze, and was addressed to the writer and his Indian friend Sebatis, who were crossing the bay in a canoe bound to Indian Beach, Grand Menan, on a porpoise-shooting expedition.

"Sebatis, the men in the schooner want to take us aboard; they say that there is too much wind and sea to fetch Indian Beach with the canoe."

"No danger; canoe best; we fetch 'im Indian Beach all safe—s'pose we go on pilot-boat, sartin very sea-sick."

On hearing Sebatis's remark, a hearty laugh and a cheer came from the crew of the pilot-boat; thanking them for their kind intentions, we bore away for our destination.

To one unaccustomed to the sea-worthy qualities of a birch canoe properly handled, the situation would have seemed a perilous one, for the sea was running high, and the breeze stiffening.

"Look out, Sebatis!" I exclaimed, involuntarily, as I was drenched by the spray from a sea breaking almost aboard of us.

"All right! no danger 'tall; only little wet."

"I'm afraid we'll be swamped, Sebatis."

"No chance swamp 'im; I watch canoe so close, you see, water can't come 'board 'tall."

I began to think that our situation very much resembled that of the old Indian who, for lack of a sail, put up a big bush in the bow of his canoe;—all went well with him until the wind increased to a gale and he could not get forward to reef his bush. So he sat like a statue, steering with his paddle, and repeating, in a mournful monotone:

"Too much bush, too much bush, for little canoe."

With this in my mind, I said to Sebatis:



CAPE BLOMIDON, BAY OF FUNDY.

"Don't you think that we are carrying too much sail? A heavy squall might upset us."

"Well, you see," he replied, "no chance reef 'im now, wind so heavy; but I take care, got sheet in my hand, s'pose squall, then I let go pretty quick."

He had the sheet in his hand, as he said, and was steering with the paddle in the other, whale-boat fashion. So I took heart of grace and troubled myself no more about the matter.

"You hear 'im wolves?" said Sebatis, pointing to a low-lying group of rocky islands that have crushed many a noble ship with their ugly fangs; "make good deal noise" (alluding to the surf); "wind shift now—fair all way Indian Beach."



CAPE SPLIT, BAY OF FUNDY.

And away we bounded, the canoe riding the waves like a duck, and so buoyantly that at times six feet of her length were out of water.

After we had sailed for another hour:

"Only a little ways now," said Sebatis. "Just 'round big headland, then no wind, only sea pretty heavy."

In a few moments, we doubled the headland safely, and Sebatis, unstepping the mast and stowing the sail in the bottom of the canoe, resumed his paddle.

On viewing our prospect for landing, I must confess to more anxiety than I had hitherto experienced. True, we were out of the wind, but the night was shutting down apace, and a transient gleam from the storm-rent clouds disclosed the sea rolling in on the beach in such a manner as to make our landing, in the treacherous light of the departing day, a dangerous one.



SEBATIS BEACHING THE CANOE.

"Now, then," exclaimed Sebatis, "s'pose you jump overboard, and run right up the beach, when I give the word. I'll beach the canoe all 'lone myself."

He was paddling with might and main, and we were successfully riding the waves within one hundred yards of the beach.

"Now then, jump quick, and run!" he cried, as a receding wave left us in a swashing undertow.

I was overboard in an instant, and struggled out of the reach of the sea. After holding the canoe steady while I jumped, Sebatis followed, and, partly dragging and partly carrying the canoe, beached her high and dry.

We were now on Indian Beach, where the Indians camp for the summer and autumn porpoise-shooting. The beach extends for about half a mile, between two projecting headlands, and the camps,



THE CAMP AT INDIAN BEACH.

constructed of drift-wood, are placed just above high-water mark, and under the shelter of the overhanging cliffs.

Drenched with salt water, and as hungry as wolves, we unpacked the canoe and carried our "possibles" to Sebatis's camp.

Porpoise-shooting affords to the Indians of the Passamaquoddy tribe their principal means of support. It is practiced at all seasons of the year, but the fish killed in the winter are the fattest and give the largest quantities of oil. The largest-sized porpoises measure about seven feet in length, about the girth five feet, weigh three hundred pounds and upward, and yield from six to seven gallons of oil. The blubber is about one and one-half inches thick in summer, and two inches thick in winter, at which time the creature is in its best condition. The blubber from a large porpoise weighs about one hundred pounds. The Indians try out the oil in a very primitive manner, and with rude but picturesque appliances. The blubber is stripped off, then cut into small pieces, which are placed in huge iron pots and melted over a fire. All along the beach were placed, at intervals, curious structures, consisting of two upright pieces of wood surmounted by a cross-piece, from which the pots were hung by chains. Under this cross-piece large stones were piled in a semi-circle, inside of which a fire was made that was allowed to burn fiercely until the stones were at a white heat. The fire was then

scattered, and the pots containing the blubber were placed over the stones and just enough fire kept under them to insure the melting of the blubber. When melted, the oil was skimmed off into other receptacles, then poured into tin cans of about five gallons capacity, and the process was complete. If the oil is pure, it readily brings ninety cents per gallon, but if adulterated with seal, or any other inferior oil, its value is reduced to sixty-five cents per gallon. A very superior oil is obtained from the jaw of the porpoise. The jaws are hung up in the sun, and the oil, as it drips, is caught in cans placed for that purpose. The quantity of oil thus procured is small, being only about half of a pint from each jaw, but a large price is paid for it by watch-makers and others requiring a fine lubricator. The oil from the blubber gives a very good light, and was for a long time used in all the light-houses on the coast. It is also a capital oil for lubricating machinery, as it never gets sticky, and is unaffected by cold weather. When pure, it has no offensive smell, and I know of no oil equal to it for those who are compelled to use their eyes at night. The light is very soft, and, when used in a German student's lamp, one can work by it almost as comfortably as by daylight.



TRYING OUT BLUBBER.

If industrious, and favored with ordinary success, an Indian can kill from one hundred and fifty to two hundred porpoises in a year, and each porpoise will probably average three gallons of oil, which is always in demand. But, unfortunately, the poor Indians are not industrious, or only so by fits and starts, or as necessity compels them. When they accumulate fifteen or twenty gallons of oil, they take it to Eastport, Maine, to market; and so, much time is lost in loitering about the towns, and in going to and returning from the



SPEARING A PORPOISE.

hunting-grounds. Moreover, there are always two Indians to each canoe, and the proceeds of the hunt have to be divided. The flesh of the porpoise, when cooked, tastes like fresh pork, and at one time was much used. The Indians still eat it, and it is also in request by the fishermen on the coast, who readily exchange fresh fish for "porpus" meat with the Indians.

Almost unknown to the outside world, here is an industry followed by these poor Indians, year after year, calling in its pursuit for more bravery, skill, and endurance than perhaps any other occupation. I could not help feeling a melancholy interest in them and their pursuits as I sat on the beach at sunrise, watching them embark on their perilous work. For these poor creatures, "porpusin'" possessed an all-absorbing interest, and the chances of success, state of weather, and price obtainable for the oil were matters of every-day discussion.

In the morning, all the women and children turned out to see the canoes go off, and if during the day a storm came up, or the canoes were unusually late in returning, many anxious eyes would be turned seaward. They were always pleasant and good-natured with one another, and generally returned from the hunt about three o'clock in the afternoon. After dinner, one would have thought that, tired

out with their exertions, they would have sought repose; but they did not seem to need it, and the rest of the day until sundown would be spent in friendly games upon the beach.

To make a successful porpoise-hunter requires five or six years of constant practice. Boys, ten or twelve years of age, are taken out in the canoes by the men, and thus early trained in the pursuit of that which is to form their main support in after years. Porpoise-shooting is followed at all seasons and in all kinds of weather—in the summer sea, in the boisterous autumn gales, and in the dreadful icy seas of midwinter. In a calm summer day, the porpoise can be heard blowing for a long distance. The Indians, guided by the sound long before they can see the game, paddle rapidly in the direction from which the sound comes, and rarely fail to secure the fish. They use long smooth-bored guns, loaded with a handful of powder, and a heavy charge of double B shot. As soon as the porpoise is shot, they paddle rapidly up to him and kill him with a spear, to prevent his flopping about, and upsetting the canoe after they have taken him aboard. The manner of taking the porpoise aboard is to insert two fingers of the right hand into the blow-hole, take hold of the pectoral fin with the left hand, and lift the fish up until at least one-half of his length is above the gunwale of the canoe, and then drag him aboard.

This is comparatively easy to accomplish in smooth water, but when the feat is performed in a heavy sea, one can realize the skill and daring required. In rough weather, with a high sea running, the Indian is compelled to stand up in his canoe when he fires, otherwise he could not see his game. In such work as this, one would suppose that upsets would be unavoidable; but, strange to say, they seldom happen,—and only under circumstances where the Indian's skill or foresight is unavailing. When an Indian stands up in his canoe, in rough water, he suits himself to every motion of his frail craft, and is ever ready to sway his body and keep her on an even keel. In this he is ably seconded by his comrade who manages the paddle, and with marvelous dexterity urges the canoe forward, checks her, backs her, whirls her completely around, or holds her steady as a rock, as the emergency may require.

Although an old and experienced canoeist, in the matter of shooting porpoises from a canoe in a heavy sea, and taking them aboard,



TAKING A PORPOISE ABOARD.

I often feel inclined to side with my friend Colonel W——, who once arranged a porpoise-shooting expedition on shares with an Indian named Paul. It was the Colonel's first and, I may add, last experience in this kind of shooting, for the Indian, having shot a very large porpoise, paddled rapidly up to him, speared him, and was in the act of hauling him aboard, when the Colonel recovered his power of speech, and excitedly exclaimed:

"Hold on, Paul! hold on! How much is that porpoise worth?"

"How much worth? May be five dollars."

"Well, Paul, I'll pay you half, and we wont take the porpoise in."

"No," replied Paul, "I pay *you* half; sartin, we take in 'im porpus."

The Colonel's appeal was of no avail, as they were surrounded by other canoes similarly occupied, and it was a point of honor with Paul to take the porpoise aboard, otherwise he might have been suspected of cowardice.

Not unfrequently, as the Indian hastily paddles up to dispatch a wounded porpoise with his spear, he sees the terrible dorsal-fin of a

shark appear, as the monster, attracted by the scent of blood, rushes to dispute possession of the prey.

Although there are well-authenticated cases of a shark's having actually cut the porpoise in two just as the Indian was hauling it aboard of his canoe, I have never heard of any harm resulting to the Indians from attacks of this nature; nor do they in the least fear the sharks, but, on the contrary, boldly attack and drive them off with their long spears.

One evening, after I had passed several days on the Indian Beach, sketching and making studies, Sebatis returned from visiting one of the camps, and said:

"S'pose you like to try 'im porpusin', I find very good hand go with us."

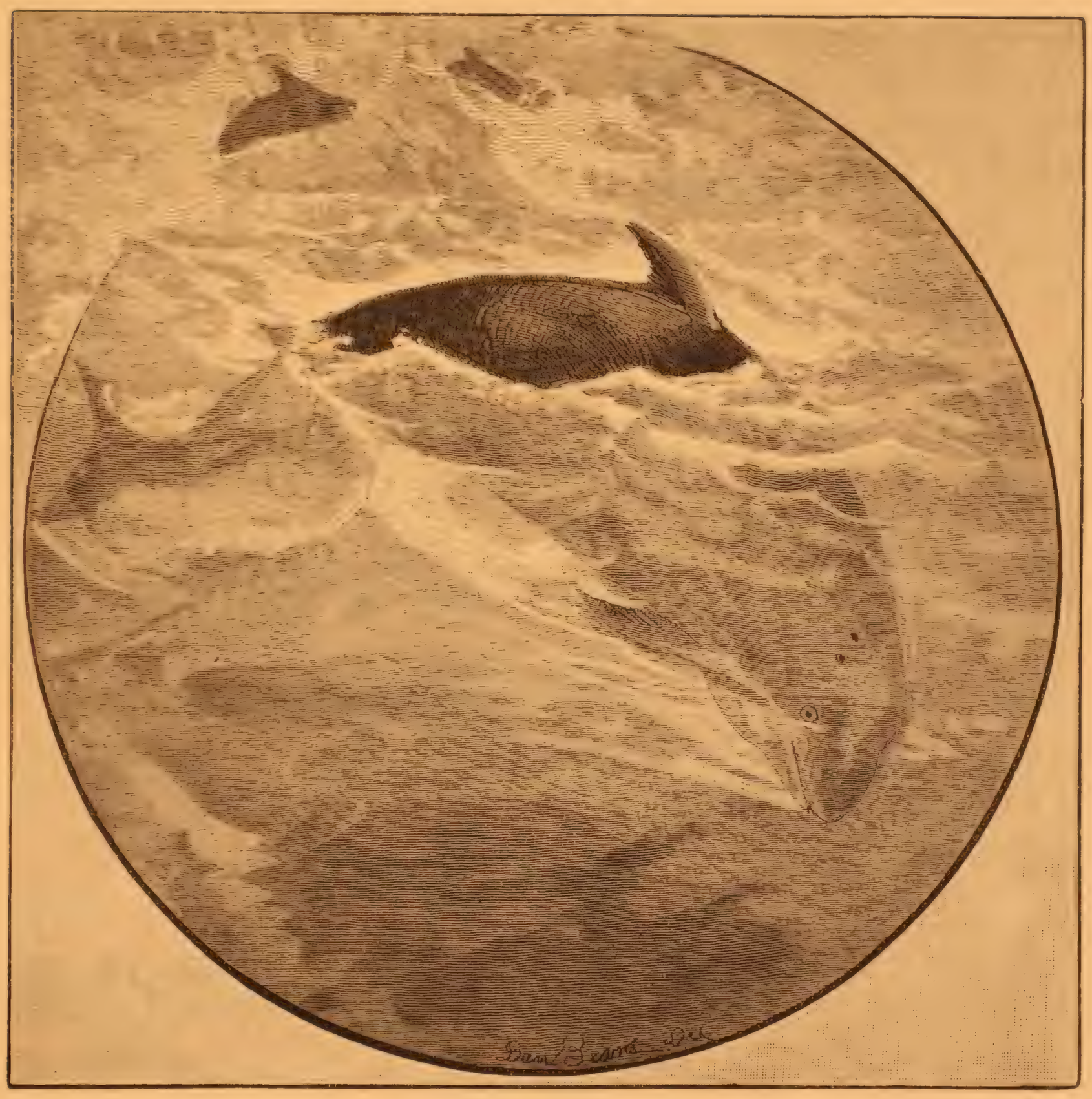
"Who is he, Sebatis?"

"You never see 'im 'tall; his name's Pieltoma."

"When do we start?"

"May be about daylight, s'pose no fog."

Judging by my experience during the few days that I had been on the island, Sebatis's proviso about the fog seemed likely to indefinitely postpone our expedition. Whence the fog came, or whither it went, seemed one of those things that no person could find out. At times, when the sun was shining brightly, the distant cliffs would suddenly become obscured as if a vail had been dropped over them, then nearer objects would become indistinct, and while one was wondering at the rapid change, everything animate and inanimate would vanish as if by magic. For a time, silence reigned supreme, then a din as of the infernal regions began. First, a big steam-whistle on the land half a mile away sent out its melancholy boo-oo-oo in warning to passing mariners; then from the sea came the answering whistle of some passing steamer; then the fishermen at anchor in the bay blew their tin fog-horns and their conch-shell fog-horns, until at last one became thoroughly convinced that every conceivable and inconceivable form of "American devil," as the English term our steam-whistle, was faithfully represented in the uproar. Now and then, during an interlude, a sound that might have been uttered by a mountain gnome echoed through the void. This was the dismal "kong, kong" of the raven, seated away up on some projecting crag. Here the raven is a regal bird and attains



A PORPOISE DIVING.

DRAWN BY DAN. BEARD, AFTER A SKETCH BY CHARLES C. WARD.

his greatest size and most majestic form. The transformation came as quickly, and almost in a twinkling the vail would be lifted from the hill, and the sun would shine out again, bright and warm. Some of the effects of light and shade produced by these sudden transitions are grand beyond all power of description.

Just about daylight next morning, Sebatis aroused me. There was no fog, and it was quite calm on the water, and, as Sebatis remarked:

"A very good day for porpusin'."

Pieltoma, a fine-looking young Indian, joined us at breakfast, and, that over, we embarked in Sebatis's canoe and paddled off in quest of porpoises.

"How far out are you going, Sebatis?"

"Can't tell yet; you see, by-em-by, may be we hear 'im porpusis blowin' somewheres."

"I hear 'im porpus blowin' just now," said Pieltoma.

"Sartin, Pieltoma got pretty good ears; I don't hear 'im nothin' 'tall."

"I hear 'im, sartin," reiterated Pieltoma.

"Which way?" asked Sebatis.

"Away up on rips, this side Eel Brook. Hark! you hear 'im now?" he continued.

"Sartin," said Sebatis. "We go now pretty quick."

Simultaneously their paddles struck the water, and away we went with redoubled speed. I was listening intently; but, so far, my uneducated ears failed to detect the sound.

"There goes porpus!" said Sebatis, dropping his paddle and taking up his gun.

Just then a deafening roar came from the stern, where Pieltoma sat, and the canoe tilted slightly over.

"By tunders!" cried Sebatis, in a chiding tone. "You miss 'im porpus sartin, and most upset canoe beside; some time you bust 'im gun, s'pose, you put in so much powder."

This custom of overloading their guns frequently results in serious accidents to the Indians, and I know two Indians, one with a broken jaw and one with a broken shoulder, the result of this habit. In this, however, they are not singular, as the fishermen of Newfoundland, who use old muskets for duck and seal shooting, overload



SHOOTING A PORPOISE.

in the same way, and broken shoulders and broken noses are said to be quite common among them.

Poor Pieltoma seemed quite disconsolate at this misadventure, and without remark of any kind resumed his paddle, and we continued on our way.

"What do the porpoises feed on, Sebatis?"

"He eat 'im mackerel, herrin's, and most all kinds of small little fishes. By-em-by we come on feedin'-grounds, then see 'im more porpusis."

"I hear 'im porpus again," remarked Pieltoma.

Instantly, Sebatis was on his feet, gun in hand, and I just caught a glimpse of a dark body rolling over in the water some fifty yards away, when Sebatis fired, then dropped his gun, and picked up the long spear which lay ready to his hand in the bow of the canoe.

Pieltoma paddled quickly up to the porpoise, and Sebatis stabbed the dying fish repeatedly, and then dragged him aboard of the canoe. He was a medium-sized fish, and weighed about two hundred pounds.

"Now, then, fill my pipe first, then we go hunt 'im somewhere else; may be find 'im more porpusis," said Sebatis.

"It will be Pieltoma's turn to shoot the next porpoise."

"No; Pieltoma best paddle canoe. I shoot 'im porpusis."

It afterward transpired that Pieltoma was not an expert in porpoise-shooting. I had thought that all Indians were good porpoise-hunters; but it seems that there are several grades of excellence, and that some of the Indians never attain the requisite skill. Poor Pieltoma was one of the latter class, and in future would have to stick to the paddle, in the management of which he excelled.

After paddling along for some time in silence, he said:

"Sebatis, s'pose we try 'im farther out; porpus may be chase 'im mackerel somewheres. I see 'im plenty gulls outside."

"Sartin, that's a very good plan," replied Sebatis. "We'll go about two miles out."

"Storm coming, Sebatis; wind and sea both rising."

"No, not any storm; only little breezy, that's all. By-em-by you see 'im plenty porpusis. Always when breezy, then porpusis kind playin', you see—jump 'round everywheres."

"Do the porpoises go in large schools?"

"Always good many together; sometimes I see 'im forty or fifty porpusis all jumpin' 'round at the same time."

"There goes three porpusis!" said Pieltoma.

"Which way?" asked Sebatis.

"There they are, Sebatis," I said, as several black objects appeared, rolling over in the waves.

"I see 'im now. 'Most too far off shoot 'im. Paddle little ways closer, Pieltoma."

Presently, bang goes his gun, and we are paddling rapidly up to the fish, which is blowing and thrashing the water into foam.

"Pretty big porpus; go over three hundred," said Sebatis, as he savagely speared the porpoise.

"'Most too big take 'im in, Sebatis," said Pieltoma.

"No, not too big; s'pose you come help me to lift 'im up."

Pieltoma came forward, and I passed aft and took the paddle to steady the canoe. As they struggled to get the fish aboard over the gunwale, my knees began to shake—there was quite a swell on, and I feared that we might go over. However, they got it safely aboard at last.

"By tunders! that's pretty good luck, gettin' so big porpus; about six gallons oil, sartin!" exclaimed Sebatis, exultingly.

"Almost upset the canoe that time, Sebatis."

"Oh, no; no danger to handle a porpus when two men in the canoe. S'pose only one man, then pretty risky. About a year ago I got upset myself, takin' in a big porpus all 'lone. Fisherman see me, and send small boat take me off, and tow canoe alongside schooner. Not so bad, you see; save porpus, canoe, paddle, and spear;—lose my gun, that's all."



SEBATIS ADRIFT.

"You had a very narrow escape that time."

"Well, you see, almost don't 'scape 'tall, wind and sea so heavy. By tunders! when I get ashore, and tell all about it, good many Ingins come and listen."

"Go on, Sebatis."

"Well, s'pose I got to tell 'im anyhow; best land somewheres, and put 'im out porpuses, and get dinner first; then I tell 'im story, —too hungry now."

After dinner, Pieltoma washed out and dried the canoe, and once more we set out in pursuit of the porpoises.

"Where are we going now, Sebatis?"

"Goin' away long eddy, off northern head."

"Is that a good place for porpoises?"

"Sartin; always on rips very good place; you see, plenty mack-

erels, herrin's, and all kinds fishes in eddies and rips; very good feedin'-ground for porpusis, you see."

The eddies, or rips, alluded to by Sebatis, were caused by the obstruction offered by projecting headlands to the ebb and flow of the tide, which on this coast rises some forty feet.

"Pretty late when we get back, s'pose we go all way to long rips," said Pieltoma.

"Well," replied Sebatis, "s'pose dark, then we'll camp somewhere all night. I fetch 'im provisions and cooking tools; sartin, canoe and sail make very good camp."

Talking did not interfere with their paddling, and we were going at a rapid rate for the place where they hoped to find the porpoises. Presently we entered rough water, with much such a sea as is caused by wind against tide, and the canoe began to jump about in a very lively manner.

"There goes porpus, Sebatis," said Pieltoma.

"I see 'im," said Sebatis, standing up in the canoe, gun in hand. Just then we got into some very rough water, and it was a study to see the admirable way in which Sebatis poised himself for a shot.

Pieltoma was holding the canoe well in hand when quite a large wave smashed over the bow of the canoe, and some water came aboard.

"Best sit down, Sebatis, take 'im paddle, may be upset," said Pieltoma.

Sebatis turned a withering glance upon him, and then, as we mounted a wave, fired at some object that I did not see.

"Was that a porpoise, Sebatis?"

"Sartin. Four, five porpusis all rollin' over together."

"Did you kill him?"

"No; miss 'im clean; all gone down. You see, Pieltoma scared so bad make me miss 'im porpus," he replied, ironically.

Retaining his upright position in the canoe, he reloaded his gun, and stood ready for another shot.

"Quick, Sebatis! Very big porpus on this side canoe," said Pieltoma, whirling the canoe around so as to afford Sebatis a chance for a shot. The next moment we were in the trough of the sea, and I saw a flash of silver on an approaching wave; a belch of fire and a roar from Sebatis's gun instantly followed, and Pieltoma paddled as



ON THE WAY TO THE EDDIES.

if for life, while Sebatis dropped his gun and picked up his long spear. In the excitement, his usually calm face looked savage, and he plunged his cruel spear relentlessly again and again into a huge fish that we had now come alongside of.

I certainly thought that we should be upset this time, for the canoe was jumping and rocking in a manner to try the steadiest nerves, and the Indians were acting like two demons, and were tugging at the huge fish, in vain efforts to get him aboard. On my hands and knees I crept aft, so as to give them more room. The canoe was drifting aimlessly, now on top of a wave and the next moment in the trough, and I feared that some of the heaviest seas would board us and end the whole matter. At last, their joint efforts succeeded in getting the fish high enough to pull him over the gunwale.

"How you like 'im porpusin'—pretty good fun?" said Sebatis, as he grasped his paddle and regained control of his canoe.

"If you call this fun, I hope that you will put me ashore before you begin in earnest," I replied.

Presently I heard from seaward the distant booming of guns, as of some ship of war at practice.

"What guns are those, Sebatis?"

"Guns? Oh, that's Injuns shootin' porpusis. Make good deal noise on salt water."

"I see 'im five canoes," said Pieltoma, as we rode on the crest of a wave.

"Sartin, must be big school porpusis in rips to-day. Look quick; you see 'im canoe?" said Sebatis.

"No, I don't see any canoe."

"You watch 'im, by-em-by you see 'im."

As we glided into the trough again, I saw a canoe riding a wave, with an Indian standing up in the bow, and another sitting in the stern, paddling. Then, in a short time, we seemed to be surrounded by canoes, and they were constantly popping up, now on one side, then on the other, and at short intervals their guns flashed in the approaching darkness.

"Hadn't we better get ashore somewhere, Sebatis?"

"Yes, we go pretty soon; kill 'im one more porpus first."

"I don't see where you can put him; that one you killed last was an immense one."

"Sartin, that very big porpus, but plenty room one more, s'pose we find 'im."

Just then there were a flash and a roar, and a canoe passed rapidly to leeward to secure their prey.

"My turn next," said Sebatis, standing up in his canoe again.

"Look out, Sebatis—look out! Big wave comin'!" cried Pieltoma.

I thought that our time had come, but the canoe, dexterously handled by the Indians, rode the wave like an ocean bird.

"If we have many seas like this, Sebatis, we may come to grief in one of them."

"No danger 'tall; only got to be careful, that 's all. You see, tide just turned now and we got too far in eddy; move out little way, then good deal smoother."

"Dark comin' now pretty quick, Sebatis; by-em-by pretty hard chance landin'," said Pieltoma.

Bang! goes Sebatis's gun in answer.

"What was that, Sebatis?"

"Only a small little porpus,—too small count 'im, most."

In a few moments they had the porpoise aboard and paddled rapidly for our proposed landing-place at Eel Brook, where we were to camp for the night. The Indians carried the canoe over the beach to the foot of a hill, where some tall fir-trees gave us shelter. They then turned the canoe partly on its side and propped it up with pieces of wood, then spread the sail on poles placed across the canoe, and our habitation was complete.

Sound, indeed, was our slumber that night,—

> "While from its rocky caverns the deep-voiced neighboring ocean
> Speaks, and, in accents disconsolate, answers the wail of the forest."



THE MICHIGAN GRAYLING.

By THADDEUS NORRIS,

AUTHOR OF "AMERICAN ANGLER'S BOOK."

UNTIL within a few years, that portion of Michigan extending from the forty-fourth parallel to the Straits of Mackinaw, dotted with beautiful lakes and traversed by many a clear, winding river, was *terra incognita* to the fly-fisher; and although we were told years ago by explorers and adventurous anglers that trout in great numbers and of large size were taken in the waters of the northern portion of the peninsula, the grayling by its true name was unknown, and does not now form a subject for any of our angling authors. It was supposed that, except in the Arctic regions, it did not exist on our continent. About ten years ago, however, hunters, and those who were looking up timber lands, began to talk of a white-meated fish with all the game qualities of the trout, which they captured in streams of both water-sheds—east and west—as an addition to their venison and "hard-tack." It was known to them as the "white trout," the "Crawford County trout," and under other local names, until a specimen in alcohol was sent to Professor E. D. Cope, of the Philadelphia Academy of Natural Sciences, who described it in the proceedings of that institution in the year 1865, and gave it the scientific name of *Thymallus tricolor*, the generic name arising from the fresh thyme-y smell of the fish when first taken from the water, the specific appellation having reference to its beautiful dorsal fin. And yet its discovery as a true grayling escaped the notice of nearly all of our fly-fishers; and to the few who might have meditated an expedition in search of it, its habitat was far off

and then almost inaccessible. The following passage, however, from "American Fish Culture" (p. 196), by the present writer, and published by Porter & Coates, in 1867, soon after Professor Cope described the fish, attracted the notice of Mr. J. V. Le Moyne, of Chicago.

"While on a trout-fishing excursion lately in the northern part of Pennsylvania, I met a very intelligent, though not a scientific person, who informed me that in exploring some timber lands on the Au Sable, in Michigan, he came across a new kind of trout which he had never seen before. From his description it was doubtless this new species of *Thymallus*. He said it readily took a bait of a piece of one of its fellows, a piece of meat being used to capture the first fish; and that it was very beautiful and of delicious flavor."

The following summer, after consulting persons interested in timber lands, Mr. Le Moyne packed his "kit" and found his way by steamer to Little Traverse Bay, and thence by canoe through a series of lakes to the River Jordan, where he had great sport, not only with grayling, but with trout of good size, taking both from the same pool, and not unfrequently one of each on the same cast. I may here mention that the Jordan is one of the few streams of Michigan in which both are found. Trout are unknown in the Manistee and Au Sable. My friend, Mr. D. H. Fitzhugh, Jr., of Bay City, the year following, took them in the Rifle and went by a new railroad then being built to the Hersey and Muskegon, walking twenty miles of the distance. He had been waiting with much interest the extension of the Jackson, Lansing, and Saginaw Railroad northward, and in 1873, when it crossed the Au Sable, he launched his boat high up on that lovely river. Since then the fame of the rare sporting qualities of this fish has spread among anglers, and they now come from many of our large towns and cities (especially those of the West) to camp on the banks of the Michigan rivers and enjoy the sport.

The European species (*T. vexillifer*) is mentioned by all English authors on angling from the time of Dame Juliana Berners to the present. The opinion is advanced by some of them that it was introduced into England when under the religious sway of the see of Rome, as it is generally found in rivers near the ruins of old monas-



teries. Sir Humphrey Davy, in his "Salmonia" (1828), wrote of it as inhabiting the Avon, the Ure, the Nye, and the Dee; and Hofland (1839), in addition to those, mentions the Trent, the Dove, the Derwent, the Wharfe, and a few other rivers. Sir Humphrey Davy also tells us that it is found in some of the streams of the Alpine valleys, and, he intimates, in some of the rivers of Sweden and Norway. A friend of the writer, who of late years has been in the habit of spending his summers in Bavaria, has had fair sport with grayling in the Isar and Traun, near Munich and Traunstein, as also in the Inn and Salza, and mentions the names of a few quiet English anglers who come annually in September to fish these rivers.

European waters, however, were probably never as prolific of grayling as those of Michigan; for trout, which feed largely on the young of all fish, are there found in the same streams. In Michigan rivers where grayling most abound there are no trout, and the fry of their own and other species are never found in their stomachs. The various orders of flies which lay their eggs in running water, and the larvæ of such flies, appear to be their only food.

Writers in sporting papers have recently claimed that grayling have also been found in the older States of the Union. If this be the fact, they are now extinct. They are said to exist in some few of the rivers of Wisconsin, which is quite probable, and also in Montana and Dakota. Dr. Richardson, in his "Fauna Boreali-Americana," gives not only a glowing description of the exquisite beauty of Back's grayling (*T. signifer*), but speaks with all the ardor of a true angler of its game qualities. The Esquimaux title, *Hewlook powak*, denoting wing-like fin, he says, alludes to its magnificent dorsal, which, as in the Michigan grayling, exceeds in size and beauty that of the European species.

Grayling, wherever found, are spring spawners, as also are the smelt and the capelin or spearling. All other genera of the salmon family spawn in autumn. The usual time with grayling, both here and in Europe, is the latter part of April and early in May. They do not push for the very sources of rivers, leaping falls and flapping sidewise over shallows to find some little rivulet as trout do, but deposit their ova in the parts of the stream where they are taken, or, if such portions are not of the proper temperature, they will sometimes seek the mouths of smaller and cooler affluents. The time of

their spawning is limited to a few days or a week or so. Of the experts who have gone to the Au Sable to express the ova, fertilize it, and bring it East to introduce this fish into the Atlantic States, one found that they were not ready to spawn, and the next season, another, who went a week or so later, found that they had spawned. I have taken fry as long as my little finger on the first of September, which were the produce of eggs spawned in April. Those that came from ova of the preceding year were six inches long; at two years old, they are ten or twelve inches long; at three years old, they are thirteen to fifteen inches long; and at four years, sixteen or seventeen inches, and weigh from three-quarters of a pound to a pound and a quarter; each succeeding year adding proportionately less to their length and more to their girth. An abundance or deficiency of food, however, has much influence on their growth, while some are naturally more thrifty than others. Sir Humphrey Davy says: "Grayling hatched in June become in the same year, in September or October, nine or ten inches long, and weigh from half a pound to ten ounces, and the next year are from twelve to fifteen inches." On this point, as will be seen from the foregoing, I differ with him. I think he must have written from hearsay.

In Michigan, in a day's fishing, the true-hearted angler returns to the water a great many more than he puts in his live-box. He will keep none under a half pound, and where the streams are so abundantly stocked, he will not begrudge their liberty to all under that weight. Our grayling are much more slender than the European species, but, if we credit English authors, do not attain as large a size. Three-fourths of a pound with us is a good average size, and one of a pound and a quarter is considered a large fish. I have *heard*, however, of their being taken in the Jordan over three pounds. The grayling is a fish of more symmetrical proportions than the trout, although it has not the vermilion spots and bright colors over its body, but its head and mouth are much smaller, and with handsome, prominent eyes. Its habits also differ materially from those of the trout. It is never found in the strong, turbulent water at the head of a rift, but in the deeper portions of the smoothly gliding stream. It avoids a bottom of clay or the mosses so common to the beds of Michigan rivers, but is always found on gravel or sand. Its rise is straight up—sharp and sudden, and when its

attention is once drawn to the artificial line, it does not turn back, as a trout does, on getting a sight of the angler, but in its eagerness disregards him entirely, and in running a river with the speed of the current, or even if the boat is poled along down stream, it frequently takes the fly within a few feet of the pole or the boat. Its play is quite as vigorous as that of the trout, and it leaps frequently above the surface of the water before it is sufficiently exhausted to be drawn in. There is this difference, however, between the two. The trout, like a certain denomination of Christians, seems to believe in "final perseverance," and will kick and struggle to the last, even as it is lifted in; while the grayling, after you have sufficiently overcome its obstinate pluck to get its head above water, is taken in with pendent tail, as much as to say, "It's all up"; but as soon as it touches the floor of the boat, its flapping and floundering begin. If it takes a sheer across the current, with its large dorsal fin, it offers greater resistance than the trout. Where they are so numerous, one seldom uses the landing-net, for few escape by breaking away, and if they do, there are more to take hold at the next cast.

If in fishing with a whip of three flies the angler hooks a fish on either of his droppers, the stretcher fly as it sails around beneath is pretty sure of enticing another, and not unfrequently the disengaged dropper hooks a third fish. Sometimes, as I have sat on the cover of the live-box, I have looked down to see three of these bright fish, after I had exhausted them, all in a row, their dorsal fins erect and waving in the clear water like so many beautiful leaves of the coleus. Nor is the grayling in taking a fly as chary a fish as the trout. On a perfectly still water you may see the latter rising and taking in the minute natural flies, when the veriest artificial midge will not tempt it; but let even a light breeze spring up and a ripple appear on the surface, and then it cannot distinguish the natural from the artificial, and will take hold. The grayling, on the contrary, is the most eager, unsophisticated fish imaginable. When it sees anything bearing the most remote semblance of life, it "goes for it," even if the water is as smooth as a mirror.

The whole of Michigan south of the Straits of Mackinaw may certainly be called flat country. The only rising grounds to be

found are a few sandy eminences,—they can scarcely be called hills,—the formation of which we leave the geologist to account for. And yet the rivers abrading against these sand-hills occasionally cause precipitous bluffs (few of which exceed a hundred feet), or such an elevation as is known in a lumberman's parlance as a "roll-way."

There is a gradual but almost imperceptible elevation from Bay City or Grand Rapids to the region where grayling are found. From the former to Grayling, where the railroad crosses the Au Sable, a distance of nearly a hundred miles, there is a rise of seven hundred feet, which gives the rivers an average current of about two and a half miles an hour. Wherever there is a contraction in the width of the stream, however, especially around a bend, its velocity may be three, four, or even five miles, but on account of the absence of rocks in the bottom, it almost invariably flows smoothly. The strength of the current can only be seen where the ends of half-sunken logs or "sweepers" project above the surface, or when the canoeman turns his prow up-stream.

The grayling region on the Lake Huron water-shed has a top stratum of coarse white sand. On the streams flowing toward Lake Michigan, the sand is yellow, with more or less admixture of vegetable loam. The rains falling on these sandy plains and percolating through meet with a lower stratum of impervious clay, and thus form under-ground courses which crop out at the margin or in the beds of the streams and keep them at the temperature of spring water.

The eighth longitudinal line west from Washington may be considered the apex of the water-sheds, declining East and West, although the head-waters of streams occasionally interlock. By a short "carry," one can pass from the head-waters of the Manistee to those of the Au Sable. I have seen marks on both of these streams that gave evidence that surveyors did so forty years ago, and have no doubt that it was a route used by the Indians in crossing from Lake Michigan to Lake Huron.

The country, except on the barrens, furnishes a fine growth of white and yellow pine, as well as oak, beech, maple, and other hard woods. White cedars—the arbor vitæ of the East—invariably fringe the banks of rivers a few miles below their sources, which are generally in ponds or lakes. These trees appear to love



VIEW ON THE MANISTEE.

spring water, and do not appear until the stream has acquired that temperature. Growing on the banks of the streams, the current washes away the loose soil from their roots, which causes them to incline over and at last to fall into the water; and these are called "sweepers." These rivers, from the constant influx of spring water, never freeze, and owing to the slight water-shed and sandy top-soil are not subject to freshets, a spring rise of two feet being considered excessive. Such streams, here and in Europe, are the home of the grayling, for it loves water of a low, even temperature and a smooth, steady current.

The game-laws of Michigan recently enacted forbid the spearing and netting of grayling at all times, and do not admit of them being taken even with hook and line from January until June. These fish acquire condition soon after spawning, but are better in autumn and in season nearly all winter. So after the first of September the sportsman can unite shooting with fishing. Several summers ago, in August, while running the Au Sable, we counted twelve deer and two bears. As they were out of season, and my friend Fitzhugh was a stickler for the observance of the game-laws in every instance, we resisted the temptation to shoot them.

The country I have described has, of course, none of that awe-inspiring scenery we find on the shores of Lake Superior; but with its clear, ever-flowing, ever-winding rivers over white and yellow sands, with graceful cedars projecting at a sharp angle from the banks, and every bend of the stream opening a new view, it is novel and pleasing to one who has been shut up all winter in a crowded city. In running a grayling stream, the feeling is one of peace and quietude. There are no song-birds in those deep woods. One only hears the far-off falling of some old forest tree, or that weird sound caused by the rubbing of the branch of one tree against that of another, as they are swayed to and fro by the wind, and in the distance one can almost fancy that it is a human voice. Otherwise, all is as silent as death.

My first raid upon the grayling was in August, 1874, with Mr. Fitzhugh, of Bay City, on the Au Sable. We ran this river from Grayling, on the northern branch of the Jackson, Saginaw, and Lansing Railroad, to Thompson's, a distance of a hundred and sixty miles. From Thompson's, after loading our two boats on a stout two-horse wagon and occupying another with springs, we drove twenty-five miles to Tawas City, and then, after a few hours on a steamer, back to Bay City. There is no grayling-fishing at the station called Grayling, nor until one gets four or five miles down the stream where the cedars appear. From this as far as we ran it,—and there was yet sixty miles of it below Thompson's,—it is a beautiful stream, much prettier, I think, more rapid, and less obstructed with sweepers, than the Manistee. The distance by land is about seventy miles. On our second day, we killed and salted down—heads and tails off—a hundred and twenty pounds of fish, besides eating all we wanted. In one hanging rift close by the bank, as Len Iswel, my pusher, held on to the cedar boughs, I took at five casts fifteen fish, averaging three-quarters of a pound each. The following day, we fished along leisurely until we had our live-boxes, containing each sixty pounds, so full that the fish began to die. Then we passed over splendid pools in which we could see large schools of grayling on the bottom without casting a fly; for we would not destroy them in mere wantonness. In a few days, however, we came across occasional timber camps, when we commenced fishing again, and supplied all hands



ON THE MANISTEE.

with fresh fish. One can leave Bay City by railroad in the morning and arrive at Grayling early enough in the afternoon to embark and drop down-stream seven or eight miles the same night. He should, however, engage boats and pushers beforehand.

There are two large branches, flowing almost as much as the main stream, that enter the Au Sable. The south-west comes in about forty-five miles below Grayling and the north branch sixty miles below. On this last stream there is a sluice dam, and when it is let off to float logs during the summer and autumn, the water is discolored somewhat, and the fish do not rise as well. One can get all the fishing he wants by running as far down as the south-west branch, which, as already stated, is forty-five miles by water, and is only twelve miles back to Grayling by land. He can engage a wagon at Grayling to come with ice on a stated day and haul back his boats, his luggage, and his fish, thus saving the labor of pushing back up-stream, which would occupy two days of incessant toil.

When I fished the Manistee several years ago, I went from Grayling with Mr. Fitzhugh and another friend, accompanied by our pushers, over "the barrens," a distance of eight miles, to a camp established by I. F. Babbit, to fish with hook and line for

the Bay City and Detroit markets. We made a permanent camp four miles below Babbit's, and fished five days, giving him three-fourths of our fish, which he came for every day, and which (keeping none under a half pound) amounted to over five hundred pounds.

One of my most pleasant trips, however, was that of the latter part of August and early in September of the following year, when, in company with two young friends, I spent two weeks on the Manistee. We went by the Grand Rapids and Indiana Railroad to Mancelona, well up toward the Straits of Mackinaw. Here we loaded boats, stores, and camp equipage on a wagon drawn by a pair of stout horses, and journeyed eleven miles east to the head-waters of the main branch. Our trip was dashed with a spice of adventure and a good deal of hard work. We had struck the stream higher up than we expected. It was small, scarcely sufficient to float our boats, and still had the temperature it had acquired in the little lake which was its source. There were no cedars, which only appear when the streams have flowed far enough from the ponds to feel the influence of spring water. On the morning of the second day, we came to the cedars and cold water, and with them the sweepers, which are cedars, as already described, which have been undermined by the current and have fallen into the water and always across the stream. We had three days and a half of hard chopping and hauling our boats over huge cedar logs, some of which had probably lain there for a century—for a cedar log, if it remains in the water, never rots. On coming to some of these logs, we had to make a "carry," placing our luggage on their mossy covered trunks and pulling our empty boats over. We would then load up and go on to cut more sweepers and make more carries. At last, the stream widened and was free of sweepers, and we had magnificent fishing. The grayling were perfectly reckless and would take one's flies within ten feet of the boats. It was virgin water; no fly had heretofore been cast on it. After a day's sport, we came to the sweepers again, and had a day and a half more with them and half-sunken logs and a few carries. At two or three of these carries, the logs were over two feet through. Mosses had grown and spread on them until, as we saw by certain signs, bears used them as a highway. On one we found thrifty cedars growing at regular intervals from the parent trunk that were



SWEEPERS IN THE MANISTEE.

more than half a century old. Soon the stream increased so much in volume, and was so wide, that a tree falling across could not obstruct the passage of our boats; and finally we came to open water again. And so we ran the stream down to Walton Junction, a hundred and fifty miles by water, while it was scarce fifty on a bee-line.

The boat used on my first trip is worth description. It was built of white pine; bottom, 1 inch thick; sides, $\frac{5}{8}$; 16 feet long; 2.10 wide on top, 2.4 at bottom, and with a sheer of three inches on each side. The bottom was nearly level for eight feet in the center, with a sheer of five inches to the bow and seven inches to stern. The live-box was six feet from bow, extending back two feet. The sides were nailed to the bottom. Its weight was eighty pounds, and it carried two men—the angler and the pusher—with 200 pounds of luggage. With two coats of paint, it cost about fifteen dollars. The angler sits on the movable cover of the live-box, which is water-tight from other portions of the boat, and has holes bored in sides and bottom to admit of the circulation of the water to keep the fish alive, and as he captures his fish he slips them into holes on the right and left sides. An axe was always taken along to clear the river of fallen logs and sweepers.

My customary tackle on these excursions is a twelve-foot rod of about eight and a half ounces; leaders eight feet long, and flies on hooks ranging from No. 7 to No. 10 (O'Shaughnessy). I have found most of the flies used on Pennsylvania streams effective, and one can scarcely go amiss in his selection. One summer, I used for two weeks the same whip, viz.: "Professor" for the stretcher, "Silver Widow" for first, and "White-winged Coachman" for second dropper. The first is tied with guinea-fowl feather for wings, an amber or yellow-dyed hackle for legs, a yellow floss body wound with gold tinsel, and three sprigs of scarlet ibis for tail. The second has black wings, black hackle, and black body wound with silver tinsel. The third has white wings, red hackle, undyed, and body of peacock hurl.

As to stores. We found that for five men, including pushers, the following were about the right quantities for a two weeks' supply: 50 lbs. flour, 1 bushel potatoes, 25 lbs. of breakfast bacon, 12 lbs. butter, ½ peck of onions, with corn meal, tea, coffee, sugar, condensed milk, a jar of pickles, and a few cans of corn and tomatoes. Bread is a difficult thing to take or to keep in good condition. I would advise, therefore, the taking of a portable sheet-iron stove, which, with a baker and all other appliances and conveniences, does not weigh over thirty-five pounds. With a box of yeast powder, hot rolls can be had at every meal.



SEA-TROUT FISHING.

By A. R. MACDONOUGH.

WHAT is a sea-trout? A problem, to begin with, though quite a minor one, since naturalists have for some time past kept specimens waiting their leisure to decide whether he is a cadet of the noble salmon race or merely the chief of the familiar brook-trout tribe. Science inclines to the former view, upon certain slight but sure indications noted in fin-spines and gill-covers. The witness of guides and gaffers leads the same way, and the Indians all say that the habits of the sea-trout and the brook-trout differ, and that the contrast between the markings of the two kinds of fish, taken from the same pool, forbids the idea of their identity. Yet the testimony of many accomplished sportsmen affirms it. The gradual change of color in the same fish, as he ascends the stream, from plain silvery gray to deepest dotted bronze; his haunts at the lower end of pools, behind rocks, and among roots; his action in taking the fly with an upward leap, not downward from above,—all these resemblances support the theory that the sea-trout is only an anadromous brook-trout. If the form and disposition of the spots are material, then new names of species need to be devised for the many varieties of California trout, some blotched with color like a snake's skin, others striped from gills to tail with a single vermilion streak. Indeed, the difference in color between the brook-trout and the sea-trout ranges within a far narrower scale than that between parr, grilse, and salmon. The question has already been before a jury, as so many questions involving facts of science do curiously drift under the sagacious ken of that palladium of our liberties so unfit to solve them. Certain poachers of the south shore of Long

Island, charged with invading the close time for brook-trout in that lovely region of sea-seeking runlets, alleged in their defense the identity of the burden of their creels with the sea-trout, whose comings and goings are bound by no inland law. The jury, incompetent either to acquit or convict, had the good sense to disagree. And thus, until a final word of authority upon the contents of their alcohol-jars comes from the cabinet of the learned, this fish is still a fugitive from the jurisdiction of science.

Careless of being classified so long as he can escape becoming a specimen, the sea-trout leisurely grows during his early years to an average weight of from two to two and a half pounds. They are often taken of much greater size. Among a hundred fish, some seven or eight will reach a weight of three pounds and upward. They are often caught weighing six or eight, and many more are found weighing between one and two pounds. It is a fair conclusion that the usual weight of the adult fish may be fixed at two pounds and a half, regarding the smaller ones as adolescents, and the larger as monsters; for the latter are dull and heavy in action. They take the fly with a surge instead of a break, and drag more than they leap or rush when hooked, seeming unaware of either their strength or their danger until they are fairly netted. On the contrary, a two-pound fish is full of mettle and ruse—one would say of fire, in any other element. He spurns the water for the fly, tears the line whirring out, zigzags, leaps and darts, and yields some moments later than his heavier rival whose nose he has thrust aside to snatch the bait.

If Soyer could open his mouth on the subject, and bid his palate judge—Soyer, who, alas, has gone from the active to the passive state of cooking, if his epigram epitaph, "*Soyez tranquille*," be true, or was it written for his wife?—he would murmur, amid grateful tears over the experiment, that a sea-trout is either younger than his prime or past it, unless two or two and a half pounds, neither more nor less, offer the judicious epicure the acme of firmness, pinky flake and sapid curd. Their vagrant habits forbid our learning where the greater part of their growth is gained or what its precise yearly rate of increase is. The way of a ship in the sea, confessed by the wise king one of the four mysteries, is a primer's lesson compared with the way of a fish that wanders through sea and river both.



MAP OF SOME SEA-TROUT WATERS.

Sea-trout are found in both hemispheres in the northern belt of the north temperate zone. Neither to Asia nor to South America are they known to resort. Their geographical distribution seems marked in longitude by the Norway border of Europe and the western coast of our own country. Their range northward is probably limited only by such conditions as exclude the possibility of life. In the late Polar expedition, Dr. Moss succeeded in capturing a small salmonoid inhabiting fresh-water lakes as far north as 82° 40′. Along the whole coast of Labrador and the Dominion, and up the St. Lawrence River nearly to Quebec, they abound.

Nor is saltness of their medium essential to life, so long as they find an opportunity for migration to and from the depths. In Lake Superior and the streams flowing into it on the northern shore, they are plentiful at the usual seasons.

While in the sea, anadromous fishes are, of course, lost to observation; but it can hardly be supposed that they rove aimlessly through it, or resort to very great depths or very great

distances from its shores. The annual return of many, if not all, of the survivors of those hatched in a particular river to the very nooks of the coast and tidal streams where their life as young fry began is undoubted. Extraordinary as so subtle an instinct seems, compared to our senses, with their limited relations to the world about us, it is not more wonderful than that which guides the returning flight of birds, through an element as trackless, to their original nests. The frequent experiments of Scotch experts with marked salmon, and lately those of our own fish commissioners with shad, prove that this recurring and unerring sense of locality is not an old-wives' fable, but a true discriminating and impelling *heimweh*.

Even when they "swim into our ken," the study of the ways of fish is perplexing and uncertain. Fur and feather do not elude us as fin does. The naturalist can track a beast to his haunts, and finds him tangible and of the earth. Birds descend from their heights to nest and live within his view. Fish fleet like shadows through their mobile element, and much of the science regarding them must be as shifting and wavering as light in water,—much that goes with their vagrant and invisible existence must always remain within the sphere of conjecture. When, therefore, the return of migratory fish to their home rivers is spoken of, absolute precision as to times and ages is not intended. Some salmon are found in rivers, and the same is probably true of sea-trout, in every month of the year, at every stage of growth, both ascending and descending. But there is a general law that, at a fixed period and for the purpose of spawning, guides the great body of migratory fish up to the head-waters of the tidal streams out of which they originally came.

Along the Canadian coast, sea-trout begin to press in toward fresh water in the latter part of July. They enter the estuary of the St. Lawrence by myriads upon myriads, sending off detachments north and south as they move on until the main body is scattered into groups, of which those tending to the upper river make their appearance off the Saguenay during the first week in August. In the particular stream of which experience enables us to speak most definitely, their arrival is timed with singular punctuality for the 5th or 6th of August. Often a pool that on one of those days held only



RUNNING THE LACHINE RAPIDS, ST. LAWRENCE RIVER.

a lingering and indifferent salmon or two on their upward run would become filled during the following night with the vanguard of the advancing body of large sea-trout. In a general way, it may be said that the season for the latter begins when that for the former ends, though belated salmon are often intermingled for a time in the same pools with the first-comers among the sea-trout. A very backward season, or a dash of cold storm crossing the summer, as it sometimes does in those regions, may delay their approach to the shore for a few days, but not materially. For a time they hover about the outlets of the streams, haunting the reefs and passing out and in with the ebb and flow, seeming to grow gradually accustomed to the fresh water, till a higher tide helps to lift them over the bars and among the rocky passes of the rapids that abound in the smaller rivers. Very good sport may be had for a time in taking them at the mouths of the streams, from the long sand-spits past which some of these empty, or the slippery rocks and jagged reefs barring their discharge. At the distance of a far cast from the shore, their back fins show pointing above the surface of the incoming waters, whose breadth gives free space for long and vigorous runs. The guides and Indians will tell you—and experience proves them to be quite in the right—that the run of the fish is governed by the moon, and is greatest when she is full or new. At those periods they pursue their way up the stream in larger numbers, simply because the higher tides then prevailing aid them to pass the bars and rapids.

Your guide's statement of fact is correct, while he errs, as many a wiser man has done, in attributing the effect to a primary instead of a secondary cause.

When once fairly in the current of fresh water, their movement up-stream is very rapid. Passionless and almost sexless as the mode of the nuptials they are on their way to complete may seem to more highly organized beings, they drive with headlong eagerness through torrent and foam, toward the shining reaches and gravelly beds far up the river where their ova are to be deposited. The females come first, afterward the males, and the earliest runs of the fish always contain those of the largest size. For several days and nights they continue passing swiftly, seldom lying many hours in the same pool, never taking a backward stroke; then all at once there is a marked break in their streaming by, and the first run has gone on. Another one soon follows, and they persevere successively coming past till late in September, or even into October. All the fish of any one run are of nearly the same weight, and they continue decreasing in size with each successive run, until, as you descend the river, only an occasional straggler over one or one and a half pounds can be caught. On the California coast they, as well as the salmon, are at least a month later in entering the rivers, which remain during a great part of the summer too shallow and tepid to afford them a safe abode, until a heavy rain-fall comes.

These crowding refluent ranks are but a small proportion of those that quitted their native streams for the sea. Thinned as they are by voracious enemies there, and decimated again in shallower waters by man's destroying devices, the amazing fecundity of migratory fishes barely avails to maintain the annual supply. From some coasts these fish have wholly disappeared. The people of the United States are more destructive in this respect than any other. They manage these things better in the Dominion. There, the importance of the fisheries as an object of commerce and a source of food, yielding for these interests as they did, for instance, in 1875, over ten and a half millions of dollars, has attracted legislative protection, through measures which it would be difficult to apply generally or efficiently in our extended and democratic country. So far as the authority and resources of the fish commissioners of the different States extend, they are doing useful and honorable work which deserves the widest



LONG SAULT RAPIDS.

public recognition and support. In Canada, all salmon-breeding rivers are leased, inspected, guarded, and yearly reported upon by a special commissioner in the Department of Marine and Fisheries. Salmon rivers are also sea-trout rivers, and good sea-trout fishing can only be obtained, except in streams too insignificant to be worth preserving, by taking either a lease of a salmon stream or a license from a lessee to fish one. There is little difficulty in making the latter arrangement, both because the seasons for the two varieties of fish are not concurrent and because a proprietor is only too glad to be aided in thinning out the sea-trout, which are very destructive to salmon ova and fry.

Along the course of the St. Lawrence between Quebec and the island of Anticosti some of the principal affluents on its north shore are the Murray Bay River, the Black, the numerous branches of the grand and far-reaching Saguenay, the two Bergeronnes, great and little, the Escoumaine, the Saut de Mouton, the Portneuf, the Saut au Cochon, the Laval, the Betsiamites, the Colombier, the River aux Outardes, the Godebout, Trinity River, the Pentecost, the Romaine, the Moisic, and the Mingan. Some of these are famous salmon rivers, held on long leases by Canadians or by our own countrymen. A few are obstructed at the outlet or not far above it by dams,

affording, however, certain and excellent fishing for a short time at their mouths. Others, again, do not bear a high reputation as salmon rivers, owing to their having been either neglected or over-fished. One, the Betsiamite, or Bersimis, is reserved for the use of the Indians. It is a fine river, but so cruelly fished, netted, speared, and snared by its reckless proprietors that it has almost ceased to rank as a salmon-breeding water.

Many of these streams will long remain unvisited except by the most enterprising anglers, on account of their remoteness from the common lines of travel and the forbidding uninhabited country through which they flow. The easiest access is still by the way of Quebec. As far as the village of Tadousac, at the mouth of the Saguenay, a daily steam line runs. But here all usual and comfortable ways of transportation end, and the solitary recesses beyond can be penetrated only by the aid of country carts or of small vessels. Taking into account the enforced delays of preparation, the forlorn condition of beasts, roads, and vehicles upon a land journey, and the accidents of winds, waves, and fogs, a visitor to any of these streams is hardly safe in counting upon less than seven or eight days' traveling between it and New York.

Whatever its soft Indian name may mean (if it be not rather Breton), Tadousac might well be called the place of rest. Within forty-eight hours from New York, one seems transported to one of the ends of the earth. All around it is vast and lonely. The great river stretches glimmering away to a shore seldom faintly seen. Behind, bare lofty crags shut it in, treeless and silent. A huge promontory bars it from the Saguenay, rolling black and cold as if drained from the eternal chasms of polar glaciers. The air comes thin and pure, the light falls sharp on the gray brows of the cliffs and the brown sand washed up by the bay. Most of those trim cottages dropped among the rocks belong to the best people in the province of Quebec, and a few to countrymen of our own, who long ago found out this retreat for cool, economical, northern lotus-eating. Such traces of human life are lost like dots in the great spaces. The silence is broken every hour by a restless little bell, tinkling from the gable of the oldest church on the continent. This is a pocket-chapel, that could be set inside a town drawing-room, low-pitched, mossy, and winter-bitten, dark inside with two hundred years' censer-



EN ROUTE.

smoke—the homely shrine for the simple faith of a poor and kindly race. The hotel is everything that our sea-side caravansaries are not,—small, neat, quiet, with the host's hand for every wayfarer instead of being against him. Its neighborhood to the Saguenay attracts always a group of salmon-fishers, ready, for the stranger's benefit, with courtesy, information, and news from the streams. Everything, indeed, about the settlement is salmonoid. A short walk along the sands leads to a cluster of *habitans'* houses in a corner of the bay. Here, if the angler has taken due care for his arrangements in former years, his guides and skipper welcome him, and his *impedimenta* for the month's work are gathered. David, Gédéon, Edouard, Pierre Jacques, Fabian, with a dozen children, French and Indian mixture, meet him with hearty greeting. Poor Cyrille is missing. No paddle was more deft than his, no shot for a seal surer. Three years ago, in the St. John's, a treacherous whirlpool, boiling up at the foot of a rapid, wrenched the canoe out of his grip and sucked him with it to the bottom. The lot of these *habitans* is miserably hard and poor. The stony soil grudges a little grass or a handful of oats and potatoes. They make the rivers their farm,

shooting seals on the ice, catching fish for salting, and hunting the porpoise. They are all wiry, agile fellows, temperate, docile, and good-natured. As guides, they are thoroughly faithful and expert, but a trifle lazy at times, and slow to learn anything beyond their range of habit. Part of them are of mixed race, part pure Canadian French, with a trace of gentle blood now and then, due to some irregular noble of the early days. Tadousac being the *terminus a quo*, beyond which nothing can be had, the traveler's first care is to examine his sporting chattels, accumulated there during years, and to find or set them all in order. If rats have gnawed the canvas of his tents, or the bed-sacking or bags, these are to be mended. The winter in a store-house may have dealt hardly with his canoes, that need perhaps bark patches or a thwart, and certainly new pitching. The tinker's art is among his guide's accomplishments, should the "*batterie de cuisine*" show signs of wear. Then the *chaloupe* is to be inspected as she lies aslant above low-tide mark on the sands—a seven or eight ton lighter-built craft, of some three feet draft, one-masted, with jigger astern, and stub bowsprit. Midships is a hold for ballast and cargo, forward a cabin built for dwarfs but holding berths, seats, and a table, and astern a clear space for handling sheets and helm, large enough for enjoyment of the evening pipe and the morning *douche*. All at last overhauled and stowed, the canoes triced up outside the shrouds and the special case of stores sorted for the cruise, which may last no one knows how long, we wait for a gentle south-west and the first of the ebb.

Opposite Tadousac, the St. Lawrence has a breadth of over twenty miles. Here the Saguenay, storming in, conquers the greater flood, as the Missouri does the Mississippi, and deepens the grandeur and wildness of its scenery. The southern bank is as picturesque and less rugged, but along the widening water we hug the northern shore, seldom stretching across far enough to see the outlines of the other break into distinct masses. Only below its junction with the Saguenay can the imperial character of this majestic river be felt. Crossing half a continent to meet the sea half way, it spreads like a sea itself, and tosses dangerous waves under a sudden gale. On the north it washes the base of spurs sent out by the great Laurentian range, whose iron-bound off-shoots frown down over the whole lower course of the river, retreating at points for a few miles, and

opening everywhere among their recesses great breadths of a clayey soil, dotted with lakes, and channeled by rapid rivers. Some of these are fed by large sheets of water, and follow a course of over a hun-



CLAY BANK AND RAPIDS.

dred miles, while others run for less than a third that distance. Long, sandy capes jut into the river, and rocky islets fringe it, but for many unbroken leagues of its flow it laps the feet of the savage gray crags or chafes around granite blocks banded with red and purple. A fisherman's house under a cliff, a cluster of huts or a light-house where a stream pours in, and a single great saw-mill and lumber depot are the only inhabited spots along hundreds of miles in its course. The voyager making a port from curiosity or stress of weather gains a hearty welcome, giving in exchange his week-old news, fresh and strange to his hosts. The immense expanse of the river, notwithstanding the steady commerce traversing it, is lonely as the sea—and often days pass without meeting a sail. With a fresh south-west breeze such as often prevails in August, the run has been made from Tadousac to the destination within twelve hours. Oftener, sailing with the morning ebb at nine, the afternoon of the next day has seen us at camp. One melancholy diary records four nights spent aboard with alternations of thick fog and baffling north-easter; our vessel, after a tossing struggle of endless



CLEARING FOR A CAMP.

and hopeless tacks, turning tail to the blast each evening and bounding back for miles into some sheltered cove under the cliffs; and five days wasted in prematurely using up the stock of novels, counting wild ducks cutting the mist, listening for the blow of the grampus like escape steam,—*gibors*, the natives call him,—and watching the graceful roll of the white porpoises. After making the mouth of the stream, a favoring tide must be waited for, to carry our craft a couple of miles up its winding channel, in search of a good anchorage. It is safer to retain the *chaloupe* during all the angler's stay. If she is dismissed, there is no certainty of her arriving again within a week of the appointed day, and with the possibility of illness or accident in these solitudes,—though these are mishaps the sportsman never counts on,—it is well to have the means of immediate return at hand. Besides, the vessel serves as a convenient store-house, to be visited from up-stream for fresh supplies, and for relieving the camp of accumulating fish. Higher than the flow of the tide it is not possible to carry the *chaloupe*, and about

this point she is moored and the canoes then unlashed, loaded with the tents and a day's rations, and headed against the current for a six miles tug to the lower camp.

With a sweep around the first point hiding the *chaloupe*, you take possession of the wilderness, or rather the wilderness of you. The sense of loneliness descends suddenly, oppressively, yet with a charm. Stretched along the bottom of the canoe, reclining against cushions of well-stuffed canvas sacks, with pipe alight, the quiet movement, the profound stillness, the lifeless aspect of nature, lull you into dreamy delight. The river is not picturesque, in the usual sense—its beauty is a stern beauty of its own. For some distance the rocks stretch along the bank, alternating with precipitous masses of clay, and sinking gradually into ranges of bowlders, then spreading out in pebbly beaches, where the first murmur of the rapids touches the ear from a distance. The hills are clothed with tall spruces, here descending rank on rank to the edge, there shattered and piled across gaps in the clay ramparts. Birches, some of noble height, are intermixed, and at the rim stout alders thrust their snaky branches in. At some points the shore falls level, sweeping back for a tract covered with bushes and such forest trees as the climate spares. But the pervading effect is somber, the prevailing color gloomy. Grays of the rocks, bluish browns of the clay, and the mournful hue of the spruce shadow the water, which struggles in vain with its crisp breaks of white foam to brighten their reflections. Under the trees the color of the stream is dull olive, paling into brownish-yellow in the open reaches, but with no tone of the brandy tint that often stains waters flowing from spruce forests. While the tide holds, the rapids are drowned, but a mile or two up they begin to show their teeth and sound their dash. Shifting the paddle for the setting-pole, we work through the first of these, and glide into a still stretch of deep water covering great scattered rocks. In such pools salmon lie on their way up, but the trout prefer smaller and less smooth ones. From the break of the current among the surface rocks it can easily be seen what the height of the water in the river is,—whether the stream is so shrunken as to need tediously careful treatment, or so swollen that the turbid wave cheats both fish and fisher, or at that happy, just medium in which the latter will go most safely and the former most in danger. The guide slackens his stroke

now and then, peering over the side to catch a glimpse of trout flitting like a shade through the depths if they have yet begun their wandering up, and often is able to say that they are moving in numbers—as often says it when none are seen. In his good-nature and eagerness to make it pleasant, this dear guide sees many things that are invisible, counts much more game than is caught, and never permits the puniest trout to be hooked without shouting "*quel saumon!*" Now and then whirling around a point, the river races down on us with the fierceness of a torrent, tossing in waves along a clay escarpment towering fifty feet, which it has cut down square and sheer as if with a razor. The rocks and pebbles are all shot off to the other bank, where the passenger may walk and wade while David gives the canoe rope, and plashes as he tows her alongside in the shallows. It is usual to refrain from casting the line on the way up, not only for the sake of avoiding delays—but, since the camp looks down on the choicest pool in all the river, why take the edge from the rapture of landing the best the first? As we ascend, the rapids grow more frequent—twenty have been counted from tide to camp, and all the number not told. More level spaces and denser trees succeed, the channel breaks up in places with islets of rock; and at last, rounding a curve, one of these lifts its feathery point of willows, David reverses his pole to hush the clang of the iron shoe on the stones, a few strong thrusts force the boat up against the rush of the narrowing outlet, and she touches the bank at the foot of the Homer Pool. Before anything is unloaded, the angler springs out, rigs a cast, and hurrying to the head of the pool, drops his first fly. That moment is crowded with the expectation of the whole past year. Two of us once so landed and so stood, and four large fish for each were raised and netted before the men had cleared the canoes of their load. But that year there was much grass in the place, and the multitudes of mosquitoes sat on it, being in number about a million, each having also compressed twelve months' expectation into that moment. The thirst for blood on our side was soon satisfied, while the insects, far from taking off their keen edge, grew industrious in putting it on.

At this point, the stream, spreading out to a hundred and fifty feet in width, wheels to the right, striking a turtle-shaped rock nearly flush with the surface which splits it in two, hollowing on the near



THE HOME CAMP.

side a deep pool, the breadth of a fair cast, and some sixty feet long. The farther side of this depression is a shelving wall, full of crevices and nooks, and the camp side a grassy bank four or five feet high, fringed at either end with bushes. Into the pool, above the turn, dashes a pretty run of swift water, three feet deep, with excellent wading ground. This little promontory is the only cleared spot on the stream. The trees were felled more than twenty years ago by an English baronet, who encamped with a retinue on this plateau, and has left traditions of famous sport. His forest lodge was chosen with the eye of a Nimrod, whose other eye must have been a landscape painter's. This basin is very seldom empty of trout. Last season, eleven fish weighing seventeen pounds were taken from it within an hour before breakfast by one rod, and the whole yield of the pool during the four days for which it was vexed only with a few casts at morning and evening was seventy-two fish.

A description of the peculiarities of a lodge in this vast wilderness, and of the obstacles to penetrating it and the devices for surmounting them, will probably not interest woodsmen, who are familiar with them all. But the greater part of readers have rather vague notions of a camp, a canoe, or a rapid; and to them a rough sketch of these features of a life in the woods may be interesting.

We "build our light town of canvas" with the precision of Roman camp-pitching. Removed from the bank so far that no backward-

sailing fly may be arrested by its roof, one wall-tent rises near the shelter of the shrubs, and another opposite, if the party consists of two or more persons. Between them are planted the table and chairs, which were sketched out rather than finished by rough carpentry of adze and auger many summers ago and have wintered often in these thickets. Farther back, at the edge of the trees, stands an A tent for the men, and another to cover the provisions, with a space for the camp-fire between. Such a canvas house, with its outside fly stretched over, gives perfect shelter from heavy rains, and has nothing to fear except from sudden gusts that may rip out the tent-pins. Its inside furnishing is simple but complete. First, the bedstead demands the attention due to arrangements for inviting tired nature's sweet restorer during nine good hours out of the twenty-four. Four stout crotches, kept apart by cross-pieces, and sunk deep in the ground, lift, at a height of two feet above it, two poles run through the broad hems of a canvas sacking, which may be double and stuffed with hemlock twigs. They give a springy support to buffalo robes and blankets. The upper one of these is to be doubled down its length, and a wide sheet, folded in the same way, laid between. An air-pillow and pillow-case complete a bed as trim as any ever spread by a neat-handed Hibernian Phillis. On the other side of the tent a neat wardrobe, with ample ventilation, is built up with similar rods on taller crotches. The dress needed is of thick woolen throughout, though at some noon hours in the brief intense summer of that region light clothes are comfortable. A few nights of last season were too hot for sleep—a rare experience. The mercury ranges usually between 40° and 74°, but toward the end of August, and especially while aboard ship, the air is constantly chilly. Next, a sideboard rises against the rear tent-pole, piled up of empty boxes, the upper one of which holds the library,—pegs being set in the pole for thermometer, spring-balance, and looking-glass, if you will. The wine-cellar and spirit-vault are established outside the tent, under the fly. Add a block candlestick, strew the ground thickly with *sapin* covered by an India-rubber cloth for carpet, and one is better lodged than many a tenant of a log-cabin. Next day after arriving, the guides go down again with all the canoes to bring a fortnight's stores from the *chaloupe*. This burden loads their light craft so deep that care and skill are needed to twist

through the rapids; and it will be late in the afternoon before the ring of their iron-shod poles against the stones, heard in measured cadence half a mile off, gives the signal of their return.

The time of their absence may be improved to review tackle and perfect it for serious work. The prudent angler will take at least three rods. Two of these should not be very light, for they may be called on, as has happened, to handle a salmon. In any case, the fish are so plentiful that it is not worth while to waste time over the smaller ones, and the most useful rod is one stiff enough to snub a pound trout, and bring him promptly to net. A duplicate reel and line are, of course, provided. As to flies, the indifference of sea-trout about kind, when they are in the humor to take any, almost warrants the belief of some anglers that they leap in mere sport at whatever chances to be floating. It is true they will take incredible combinations, as if color-blind and blind to form. But experiments on their caprice are not safe. If their desire is to be tempted, that may most surely be done with three insects, adapted to proper places and seasons. One need not go beyond the range of a red-bodied fly with blue tip and wood-duck wings for ordinary use, a small all-gray fly for low water in bright light, and a yellowish fly, green-striped and winged with curlew feather, for a fine cast under alders after the patriarchs. By all means make your own flies, or learn to do so, for the sake of practicing a delicate art and amusing some idle hours on the stream. Besides, one's own handiwork is stronger than that of most shops, and with a pocket-book full of material, it will be easy to replace a loss, by no means infrequent, caused by the tipping of a canoe.

Wading drawers of India-rubber, reaching well above the waist, are indispensable; and the foot that is shod with anything but a nail-studded sole will surely bring its wearer to great grief when it touches the treacherous clay. Much of the bottom is of this greasy stuff, looking like stone, but as slippery as glass, and unsafe for any foot-gear whatever. In some runs, the river-bed is pebbly, but usually strewed with large stones, and the current is so swift as to render a knee-deep stand unsteady.

The day's work in camp follows quite a regular routine. About six, the light wakes you—the guide never will. A dip in the pool or a bucket dash at the brink tones the nerves for a firm touch of the

rod, while the reel sings its morning song over a brace of fish caught for breakfast, which the cook-guide is preparing. This need be nothing more substantial than ham and eggs, of which a week's supply can be kept (unless, indeed, a *fondu* is prepared, which the guide can be taught to compose very well), fish-balls,— and David is an adept at these,—the trout, broiled on a wire gridiron, buttered toast or Boston crackers grilled, and marmalade, with tea or coffee. For a change, a partridge-chick can now and then be knocked over, or a squirrel or rabbit tried. After that comes the *chef-d'œuvre* of our wood-cook—*crêpes!* These are thin rice cakes, fried crisp in a pan, and eaten with maple sugar. Do not grudge the men a good hour over their own breakfast. This month is sunshine in their dull year, and such plain fare sybaritic to them. And a pipe in this air, lit with a wood ember, is so doubly delicious that it needs no patience to prolong it awhile. About nine, the canoe floats off, bearing you sitting flat in the bottom, and the guide upright astern, either to the lower pools to fish from the boat, or to the upper water where landing and wading are more convenient. The fish will rise at almost any hour of the day, and in any weather,—rather more languidly from noon till three, under bright sky; rather more actively at early morning and after four. Where the water has gathered smoothness again after passing a rapid, it begins to deepen and converge to a point. Just there, in ten or fifteen feet depth, among the rocks forming a sort of dam, where the outlet of the pool breaks over in a glassy curve, the large trout love to lie, watching for insects swept down. Your fly follows the swirl, swimming swifter, till, just as it nears the rock at the very cleft of the fall, there is a surge, a tug, and the fish darts up-stream. The large ones seldom break the surface. Turn the rod at once with the reel uppermost, and do not check him till he tries to move down again, and then only gently. If he can be held away from the brink,—and it is not often, with care, that he slips over it,—from four to seven minutes should suffice to bring him to net; though if he be fresh run from tide and over three pounds, twice that time may be needed. It is well to search the neighborhood of the bushes, too, before descending more than half-way down the pool, or of any great rocks scattered on the bottom.

While the fisherman is busy, the guide left at home has been cleaning and curing the catch of the day before. No fish are wasted.



GETTING READY FOR BREAKFAST.

Coarse salt and barrels always make part of the *chaloupe's* freight, and the trout not eaten are packed and carried to Tadousac, as an important and welcome addition to the winter's stores for these poor fellows' families. When a larger trout than usual is netted, he is greeted with the cry, "*C'est bon pour le baril.*" The return from the chase must be so timed that the rapids may be passed before dark. Immediately on landing, every fish caught is faithfully weighed (none being small enough to reject) and entered on the score. Usually, dinner is at six, the morning's *carte* being varied only with one of three or four kinds of preserved soup, baked or fried potatoes, boiled rice, sherry and Bordeaux, cheese, raisins, coffee, and a *chasse.* If you ask the best way of cooking the fish—those over two pounds weight deserve the pot; the flavor and juices of smaller ones above a pound will be kept unwasted by roasting them under the coals; and as to those below a pound, since in this region not St. Anthony, but probably St. Lawrence, is their patron, let them follow his fate and grill on the gridiron. None are small enough to spoil by frying; but our *cordon,* with a little superintendence, is quite equal to a stew in claret. After dinner, the *plateau* is large enough for a quarter-deck promenade of thirty steps to and fro, till, finishing the second cigar, you look up about nine to see the



RUNNING A RAPID.

Great Bear just over the tent stealing into the lingering twilight, and call David to make a "smudge" inside the canvas that may completely clear it of mosquitoes, and to tie down the flaps, shutting you in for the night. On Sundays, the stream runs undisturbed. Reading, journalizing, and repairs of many kinds fill the time. Last summer, the Government guardian, an old acquaintance, chanced to arrive on Saturday night, and camped near us,—perhaps needlessly suspicious of a breach of Sunday close-time.

His business at this season was to examine and clear the portages, several of which are blazed along the river-side at points made impassable for canoes by the roughness or sudden fall of the rapids. The rapids vary greatly as to depth, height, and length. Some cover a rod of slightly broken water with small stones; some race for a quarter of a mile in surges over clay bottom, scooped and beaten as hard as rock, while others toss and dash on a sharp descent for twice that space out and in among a maze of granite bowlders. Up and down these last, and around some steep falls, the canoe must, of course, be coaxed with a line, the guide either wading and steadying her or stumbling alongside ashore. Running a rapid is really piloting, for the natural fall, the lay of the rocks, and the best water between them, remain always nearly the same. Many a jagged old sunken lump or bowlder-head just above the surface, worn glassy smooth, with long weeds streaming like hair from it, looks familiar to the angler year after year. Most of the rapids may be waded

across at very low water, but with considerable risk, on account of the irregular, slippery foothold and the tearing current. The ascent or descent of a rapid is exciting, even without the trifle of danger it brings. The whispering ripple of the water deepens into an angry rush as you approach. At the head or foot the pitch looks much sharper than it really is, the eye taking in the foreshortened incline. Down among crowded clusters of rocks, now seen, now swept under, the flood comes bounding, coiling, and shattered. Every epithet in Southey's particularly foolish piece of nursery drivel, the "Cataract of Lodore," might find reality and echo here.

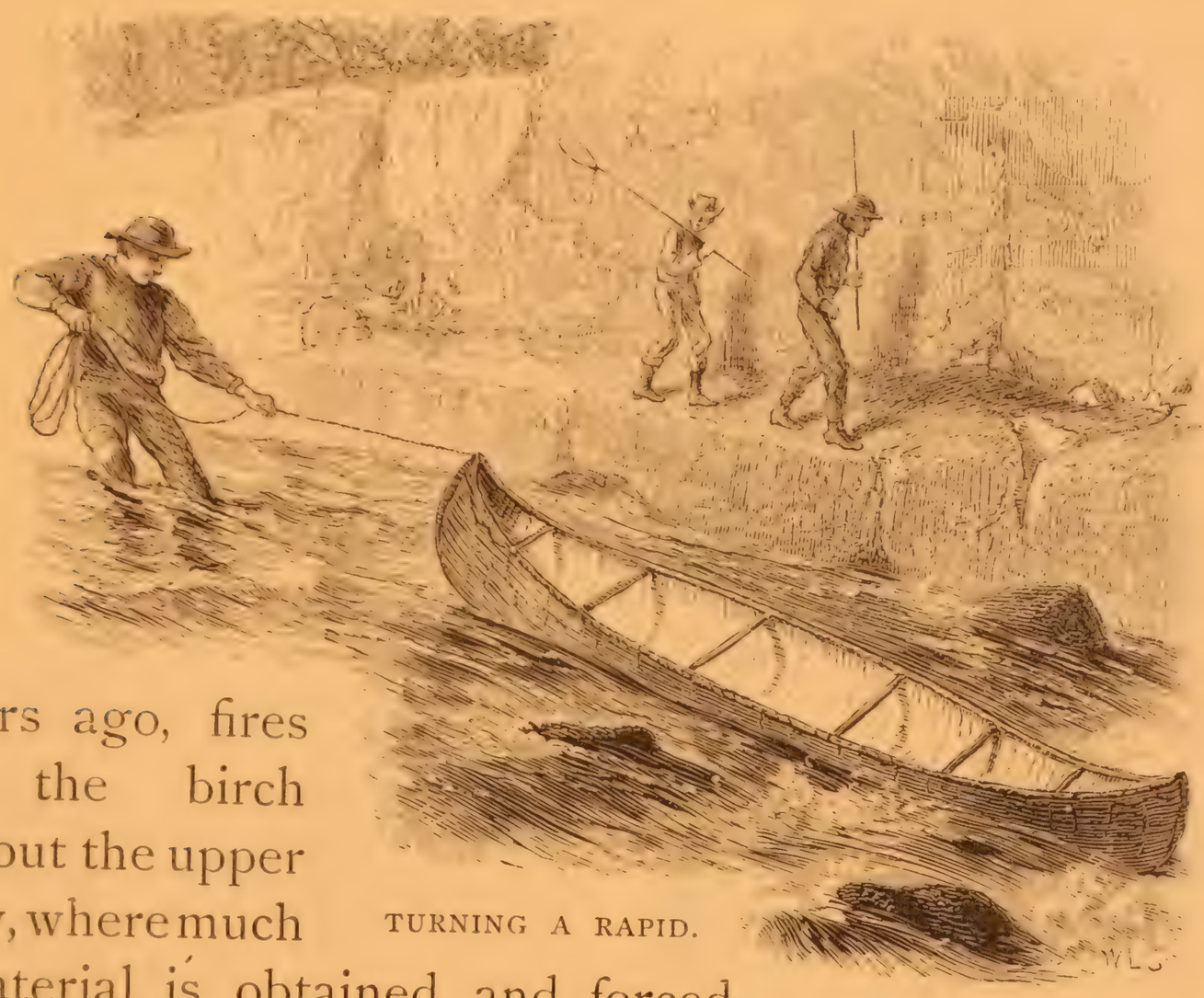


PADDLING.

In this sort of surf, half stone, half water, a common wooden boat would be bumped to pieces in five minutes. The only thing that can float in it, the birch canoe, is one of those marvels of clever adaptation that look like genius. Such a canoe is really nothing but a basket with pointed ends and stiffened sides. You sit, float, and toss in her as you would in a basket, and without most watchful perpendicularity and tiresome tension of nerves in balance, you tip out of her as you would out of a basket. She is a mere single skin of bark sewed together with deer-sinews, rimmed with slight ash or birch strips, and connected across at top by five slender thwarts, or "bords," modeled in all her lines so that the deepest point is along the middle bottom, and she turns in the

water every way as on a pivot. The draught, with two men aboard, is three to four inches. Buoyant, of elastic frame, unsteady to the lightest touch, endways or sideways, she answers to skillful control like a sentient thing, and throws a clumsy rider like a mustang. With her light grace and delicate color, she is the lady of watercraft. The skill of these canoe-men is wonderful, only gained by long practice from early childhood. Nearing the foot of the rapid, while yet in still water, the guide drops the paddle, stands erect with his setting-pole in the extreme stern, his boy in the same attitude at the point of the bow, and studies the eddies and stones intently. In a moment she is swung alongside a rock, her peak thrust just around it across the stream; then, with a mighty drive from the poles, she darts diagonally through the torrent and whirls her tail downstream, under the lee of another rock a few feet higher up. She is again held, hugging the granite by main force, and edging forward till the beat of the water boiling up astern of her center helps to lift her on, and with another powerful send she shoots across upward again to the next covering point. She threads her intricate way among the bowlders by repetition of these zigzag dashes, sometimes missing the aim and crashing back against a rock, sometimes beaten aside by the pole slipping on the bottom, with the guide's eye quick at every turn, and his muscles steadily braced. The men's pose, alertness, and strength form a study. At times she must be thrust up by sheer power against the dead rush of the torrent, gaining inch by inch. David's cries to his boy rise above the noise of the water—"*Pousse! arrête! lance l'eau! hale l'eau! autre bord! pousse, pousse au loin!*" Accidents occur, but seldom from miscalculation. If a pole should snap while the stress of the flood beats on her, the canoe may be whirled broadside on, and capsized. Then there is a rolling and tumbling among the rocks, struggling for a footing, sometimes with hard bruises, — or if near the foot of the rapid, one may be swept into deep water and must keep a clutch on the point of the canoe till she drifts into shallows. Except in the larger rivers, there is not much danger of drowning. The guides prefer ascending to going down a rapid, as the risk of the canoe getting beyond their control is much less when the water drives against her in sight. They are very cautious, too, to avoid straining or bruising the boat. "You act as if this canoe belonged to you," David would reproach his boy at a careless movement.

Well handled, a good birch may last for four years; or she may be banged into uselessness by an inexpert in one season of low water. The red bark is stouter and more durable than the smoother yellow.



TURNING A RAPID.

Two years ago, fires ravaged the birch woods about the upper Saguenay, where much of the material is obtained, and forced the Indians to seek their bark at great distances, increasing the price of their work. A new canoe of the size used in these streams costs with equipment from eighteen to twenty-two dollars. These are eighteen feet long, three and a quarter across, and fifteen inches deep, weighing about forty pounds. They are Montaignie canoes, built by Indians of the north shore. The larger ones, used in the St. John's and the greater rivers, will carry nine men or a freight of nearly a ton. They are made by the Micmacs of the south shore, and have higher peaks and flatter bottoms, with less roll than the former.

After eight or ten days spent at the home camp, all the pools within range having been several times whipped over, and the run of large trout sensibly slackens. At a point seven miles higher up (measured through its crooks), the river rests, after its earlier wanderings for seventy miles through untrodden forests, and expands into a basin, between two and three miles across in either direction, deep set among craggy hills. Through this lake, and to the far regions beyond, all the fish, salmon and trout, pursue their pilgrimage. Just opposite the home camp a well-marked portage

opens, cutting off the bends, and bearing straight over a mountain and through dense woods to the lake by a rough course of three miles. Sunday, a leisure-day, is usually chosen for this march, and most of the hours of it are required to make the carry and settle the new camp. At one trip, the men carry over tents and a week's provision, returning to bring the canoes on a second. Sixty or seventy pounds for each makes up a load, and with this settled compactly on the shoulders, and steadied by a broad strap passing over the forehead, so as to leave the arms quite free, they climb the steep hill-crest, often cutting steps in the wet clay, and press through the woods at a quick gait, making the distance within two hours. Portaging the canoes is much more difficult and delicate work. They are turned over, hoisted on the head, and carried poised with the two hands at the edges, a little forward of the middle, giving the bearer at a distance among the trees the look of an ungainly two-legged elephant. For a time, axe and knife must be depended on for tools, *sapin* for beds, and birch-bark for furniture. As we go on, the thicket grows denser and the solitude deepens. Very little animal life disturbs it. A few squirrels, and a partridge with her brood will chirp and flutter; at the lake, we shall see swooping fish-hawks and hear the kingfisher's metallic cry. Occasionally, in these woods, as on



MAKING A PORTAGE.

the stream, a fresh bear's track is crossed, but the silence here is seldom broken except by the ceaseless under-song of the mosquito's hum—

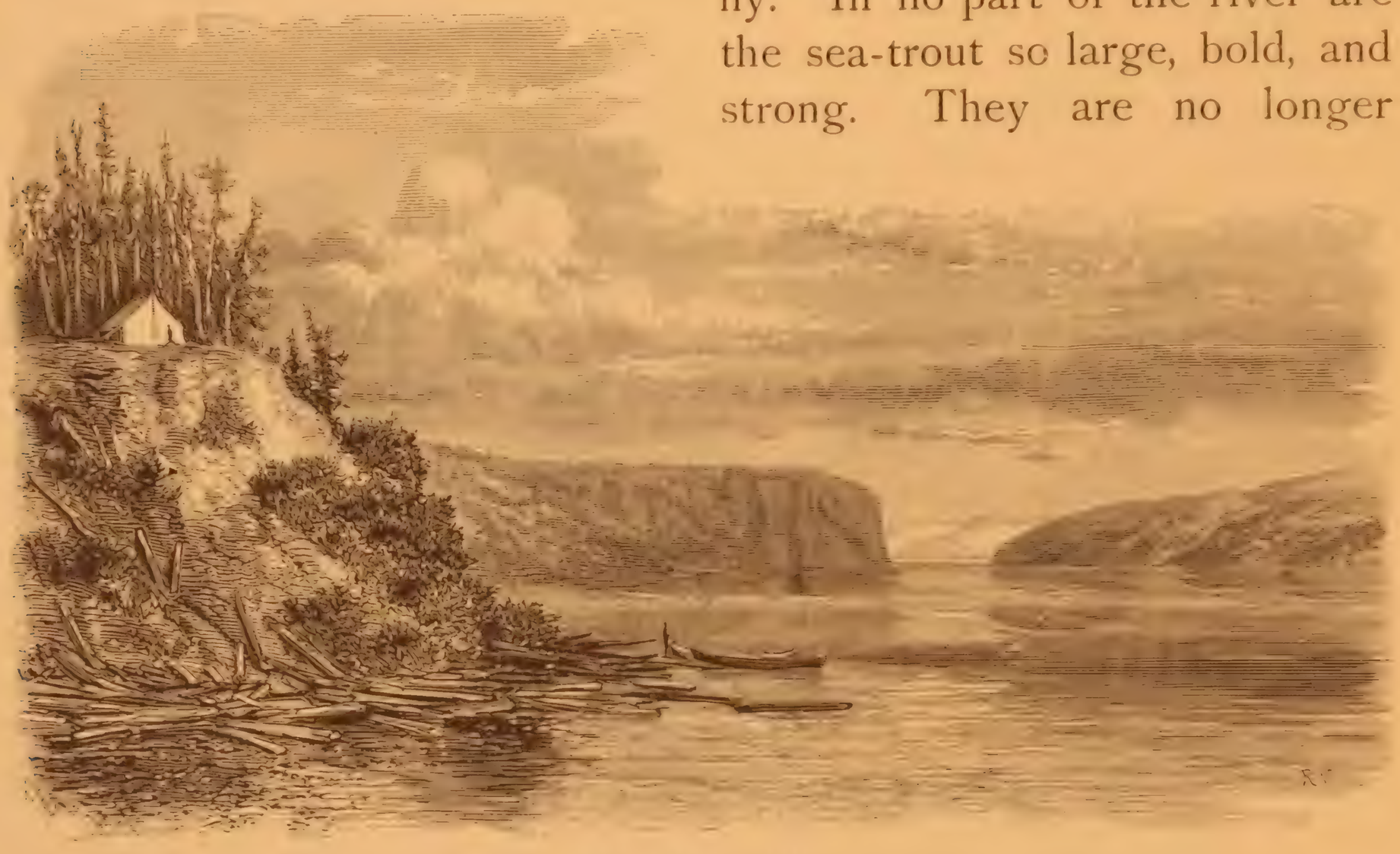
"The horns of Elfland faintly blowing."

This minim of insects must have a word. Since fishing began, he and his stinging kin have been the angler's pest. Herodotus thinks him worthy of mention and describes the Egyptians' device for protection against him,—that of spreading a net over a shaded cleft in the rocks, through the meshes of which he will not pass unless the sun shines in. The Sicilian fisherman of to-day contrives precisely the same refuge from his attack. But after the experience of many years on many streams, the assertion is confidently made, that all masquerading in veils, helmets, goggles, and capes, brings mere vexation and impediment, and that the most effective and least troublesome protection is gained by rubbing every exposed surface thoroughly and often with a mixture of three parts of sweet oil and one part of oil of pennyroyal.

At the lake it is always cold. The sunsets over its rugged shores doubled in the crimson water, the frequent aurora flashing and streaming across the whole breadth of sky, and the clear stars looking down on a mirror as still, touch the feeling like beauty wasted, since so rarely seen, if nature knows any waste.

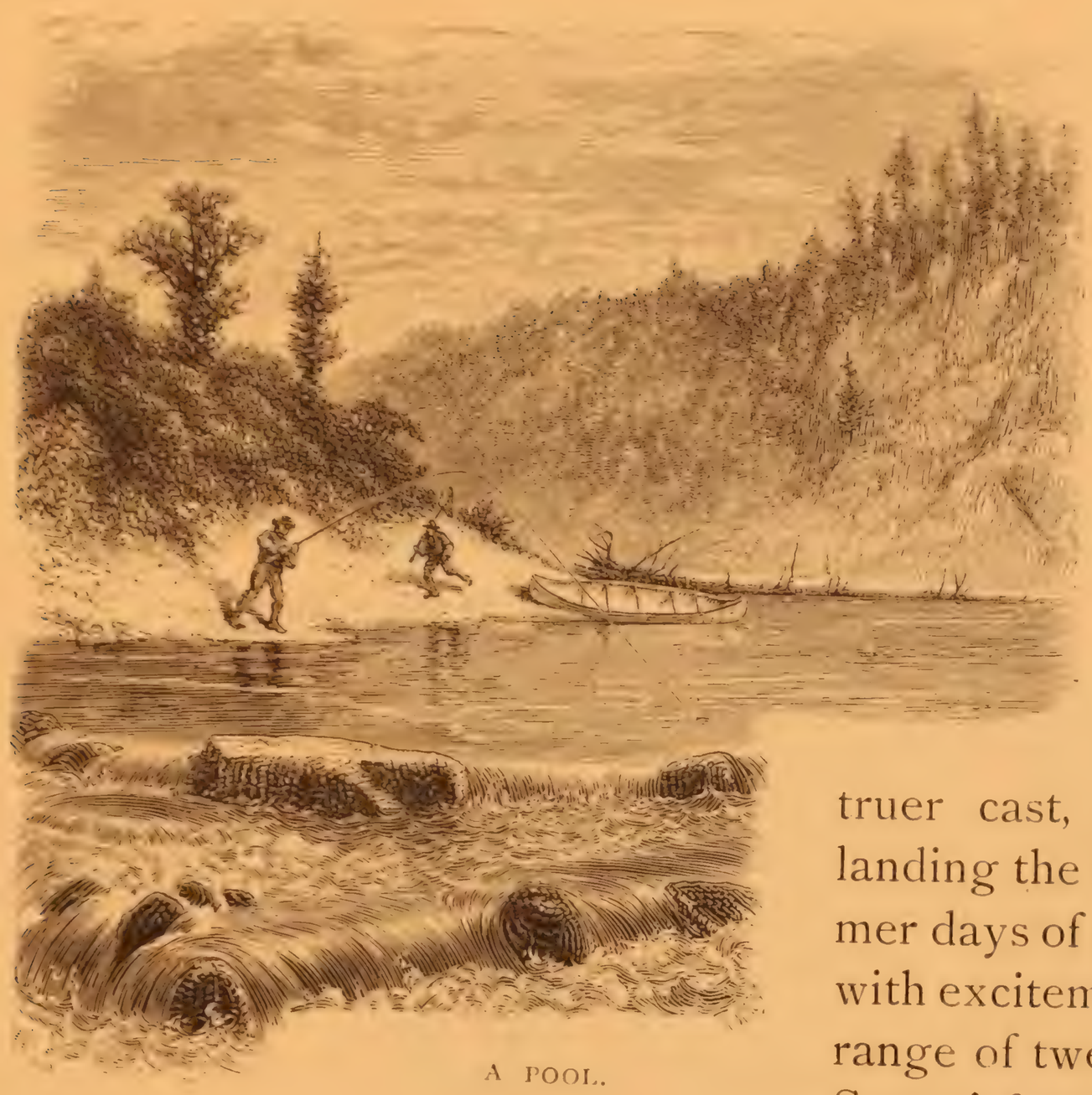
A variation of sport may be enjoyed here, if one condescends to capture the great pickerel abounding in the lake, either by casting a spoon with a stout rod among the lily-pads, or by lazily letting ten fathoms of line trail from the canoe while the guide paddles slowly, till one of these pond-sharks, striking, gorges the gaudy bait, and is hauled up alongside and knocked in his grim head with a short club. A couple of hours of this rude sport yielded to one line a hundred and twenty-two pounds, the largest fish weighing eight. This is merely justice pursuing murder, since the pickerel is a destroying terror to trout and salmon. They lurk in shoals around the outlet, to seize the fish passing up and wage havoc among them for a mile down the stream. Escaping these waylayers, the fish have still many miles to run before reaching the spawning-grounds. The intervening water above the lake is too free from rapids to afford good fishing until a tributary is reached, too far away to be attainable in the few days remaining. Pointing the flotilla peaks

south out of the lake, we turn our backs upon nothing between it and Hudson's Straits, except the dreary solitudes of Labrador, with a few peaceable Indian tribes scattered through them. In its fall of two hundred feet through seven miles, between the outlet and the home camp, the river breaks into magnificent pools, drained by sharp, rough rapids, with long intervening stretches of deep-water lurking-places (even so late) for salmon. Many of them of large size are passed lying at the bottom motionless, as if cased in ice, or heard breaking at night. A small one now and then absorbs the fly. In no part of the river are the sea-trout so large, bold, and strong. They are no longer



THE LAKE CAMP.

the gray trout that sailed in with the tide. Their color is rich and high beyond description,—backs a glittering bronze, shot with gold, and crooked, dark streaks; bellies like pearl, and fins a fan of strong crimson, purple, and black spines. Their dazzling vermilion spots "bid the rash gazer wipe his eye." As a new puzzle for naturalists, some of the largest taken blush all exquisite rose wherever white usually shines. The beginning of the fishing and the verge of the pirate-pickerel's range is marked by a grand bald crag, towering four hundred feet, and sinking sheer into water, christened the Palisade Pool, where very large trout usually lie. The next few miles are a favorite preserve, always stocked in the season with a succession of splendid fish. The banks, still thickly



A POOL.

wooded with larch, spruce, sycamore, and small shrubs, show less of clay than those lower down, and more of pebbly ledge and short sandy beaches, so that fishing afloat is exchanged for wading, which insures a longer, truer cast, and more ease in landing the fish. The long summer days of a week may be filled with excitement in whipping this range of twenty or thirty pools. So satisfactory is the work, indeed, that they are usually gone over several times on successive days from a new camp established near half-way down to the great fall, which separates them from the lower range of water accessible from the original camp. This is pitched near a curve, just below which the river receives two or three cool streamlets into a circular basin, parted from its main course by a little stony tongue, fringed with bushes, and about thirty yards across. This spring pool is a favorite resting-place for trout on the way up, and they have been seen literally paving its sandy floor, though its clearness and exposure to the sun render them very shy. From this pool, one hundred and six fish were taken by one rod in three days, thirteen of which weighed over three pounds, and the largest five.

Sunshine seldom interferes seriously with the sport in this region. Days of sullen, cold rain come on, leaving only an hour or two for work outside the tent. Sudden thunder-gusts break over us while afloat, driving us to the shelter of thick épinettes (dry spruces), or even to a pent-house under the canoe, turned bottom up, and propped on sticks. Sometimes a strange cloud of thin mist fills the valley, that seems to tingle with electricity, and is pungent with the smell of ozone. So sensitive the nerves become to that mysteriously



THE OUTLET.

charged vapor, that one glances at the twig-tips, almost expecting to see them lit with St. Elmo's fire, like yard-arms at sea in an electric storm. Only some seasons, however, and some days in each, are free from one of the two extremes of too much or too little rain. Last summer, for instance, the weather continued so hot and dry, and the stream ran so low, that for long stretches not a fish was to be found at all in the pools, all having resorted to the mouths of little inlets, where they hung clustered like a swarm of bees. Down from the middle camp, the canoes go deeply loaded with tents and fish, dipping only now and then into an inviting pool, and taking some hours to reach a great rapid which seizes the river at the opening of a gorge and hurls it furiously along half a mile of tangled rocks, to plunge it over a steep, picturesque fall thirty feet high. Down this rapid the guides will slowly, cautiously pole or lead the

canoes, sending the passenger to scramble along a rough path among the cliffs, from which he looks down on their dwindled, struggling figures, and faintly hears their shouts. They meet again at the fall, round which, of course, the canoes are portaged, or slid down through a side chute, and we have passed the portal of the upper stream, and bid it farewell.

Three days of the best work for one rod in the upper waters, noted on the score in separate years, are: 37 fish of 79 pounds, 41 fish of 83½ pounds, 39 fish of 86½ pounds.

If the day of coming down to the home pool has been properly timed, its evening will be prolonged over the camp-fire to watch the full moon rise above a clump of pointed spruces fronting the tent. She brings the promise of a new run of fish, filling the pools after their week's rest, with occasional fine trout among them, lingering behind the seniors on their way up. A sweet sense of civilization attends the return from the deeper forests to bed and board, and the camp seems even neat and spacious after rougher quarters. The black flies are gone, and the mosquitoes only weakly wicked. Sometimes at morning frost sprinkles the ground, the days grow cooler, and the nights cold, till we sympathize with the man of old who cried, "Aha! I am warm; I have seen the fire," and enjoy the mere animal pleasure of heat. The men turn and resalt their fish, stowed in broad troughs of hemlock bark. The smell attracts small animals, and sometimes there is an alarm in camp that a bear has snuffed them out, and running out with the gun in the chilly night air, you catch sight of a lynx making off with one in his mouth. The sport is still fine; the fish, though not quite of the size of those earlier, rising and running with a dash. But the stores are dwindling, the canoes get leaky in spite of pitching, and the weather turns windy and changeable. The dull boom of the fog-gun from the light-house island—thirty miles off on the south shore of the great river—rolls oftener up the valley with a warning that autumn mists are gathering and autumn storms brewing. There steals on a sense of having been a month without telegrams or letters, and suddenly some morning you say "enough," and order the flotilla down to the *chaloupe* with everything not needed for one day more. Next day, after an early breakfast, we strike tents, pitch the table and chairs into the bushes to save them from spring floods, pack the canoes with what

remains to make an ample load, and cast one longing, lingering fly behind before pushing into the current. The catch is always very good on the way down in point of numbers, but is apt to reduce the score as to average of weight. It is not always possible to fish or even to pause. Two seasons ago, the river was very full on entering it, and after a week's difficult fishing, it rose steadily, with heavy showers, till its olive surface turned *café-au-lait* color, and rolled bank-full, effacing rocks and rapids alike. Down the middle, it tossed in waves over the sunken bowlders. A canoe would quickly have foundered there, and we were forced to drift along the margin, with the aid of branches, fairly washed out of the valley by the torrent. The kingfisher screams along the sands as we pass; perhaps a beaver pokes his nose cautiously out among alder roots; or a disturbed owl floats silently off into the woods. At length, after leisurely and regretfully dropping down for hours, the *chaloupe's* thin mast points above the next turn, and the quickened paddles cut the tide-water, driving the canoes alongside to take possession if she is found all right.

She may be found in quite a different condition. Some seasons ago, the men had left her the previous night hauled out into a little bay, and anchored on so bad a bottom that when she grounded with the falling tide a rock started one of the planks below her quarter, and she lay stern under, half full of water, when we boarded her. Fishing out her cargo, and drying on the rocks what remained unspoiled, was a tedious waste of time; but when lightened and pumped out, her planking sprang into place and was easily secured. The voyage back oftenest consumes two days and nights against a down-stream wind, sometimes strong enough to raise an uncomfortable sea in making the port tack while the tide ebbs, and to drive us to some anchorage till it turns. Good and honest fellows as the guides are, there is, perhaps, the slightest possible disposition on the skipper's part to lengthen the cruise for his chartered craft by a half day or more, so that it is usually early morning when she works slowly up with sweeps against the edges of the powerful Saguenay current and rounds the point into Tadousac Bay. The summer birds have flown from the cottages and hotel,—the house seems only waiting our return to put out the fire in its hospitable stove and close its doors for the season. The steamer leaves L'Anse à



OUR SKIPPER.

l'Eau for Quebec late in the afternoon, giving time for a substantial civilized dinner off other service than tin and for settling the accounts of the cruise.

The usual charge for canoe-men is a dollar and a half a day, in gold, and for the *chaloupe*, with its owner's services, two dollars. A liberal rule for calculation in laying in supplies at Quebec is to allow thirty cents for each ration, on the basis of two served to every man of the party each day for ordinary stores, with an addition for wine and spirits shipped, and for what the Germans call *delicatessen*, from which a quart of lime juice should by no means be

omitted. The average cost of the month's excursion in each of four years—once with three in the party, once with two, and twice alone—has been from three hundred and seventy to four hundred dollars, including the sum paid for license to use the stream, as for salmon-fishing. It results, therefore, that with respect to region, route,



HOMEWARD BOUND.

equipment, and expense,—as to all things indeed excepting season, tackle, and size of fish,—there is little difference between salmon-fishing and sea-trout fishing; and the angler who can choose his month will, of course, prefer the former. If forced to content himself with the minor sport, he will find that health and experience are no less essential to its enjoyment, and that the charms of Nature, impartially kind to all enthusiastic wooers who seek her wilderness shrine, will more than compensate for its comparative tameness. The following instances may prove that his record, if modest, is not likely to be insignificant; even though it might not provoke Mistress Quickly's comment—

"I'll warrant you, he's an infinitive thing on the score."

Years.	Rods.	Days.	No. of fish.	Weight.	Average.	Over 3 lbs.
1872 . .	3	17	1017	1204 lbs.	1 lb. 3 oz.	92
1874 . .	2	13	222	274 "	1 " 3½ "	7
1875 . .	1	10	282	399 "	1 " 6½ "	14
1876 . .	1	23	389	560 "	1 " 7 "	26



THE CUSTOM-HOUSE, QUEBEC.

When the angler, recounting these captives of his steel, pictures again each bright scene and hour of his summer's recreation, it will not be the least of his pleasures to remember that its fruits are aiding to make the cheerless life of his guides more endurable, in the long winter while those dark forests bow beneath the weight of snows, and the stiffening river shivers through all its depths under the blasts storming down those stern Laurentian valleys.




H. Sandham

THE HALCYON IN CANADA.

By JOHN BURROUGHS,

AUTHOR OF "WINTER SUNSHINE," "WAKE ROBIN," "LOCUSTS AND WILD HONEY," ETC.

THE halcyon, or kingfisher, is a good guide when you go to the woods. He will not insure smooth water or fair weather, but he knows every stream and lake like a book, and will take you to the wildest and most unfrequented places. Follow his rattle, and you shall see the source of every trout and salmon stream on the continent. You shall see the Lake of Woods, and far-off Athabaska and Abbitibbe, and the unknown streams that flow into Hudson's Bay, and many others. His time is the time of the trout, too, namely, from April to September. He makes his subterranean nest in the bank of some favorite stream, and then goes on long excursions up and down and over woods and mountains to all the waters within reach, always fishing alone, the true angler that he is, his fellow keeping far ahead or behind or taking the other branch. He loves the sound of a water-fall, and will sit a long time on a dry limb overhanging the pool below it, and, forgetting his occupation, brood upon his own memories and fancies.

The past season, my friend and I took a hint from him, and when the dog-star began to blaze, set out for Canada, making a big detour to touch at salt water and to take New York and Boston on our way.

The latter city was new to me, and we paused there and angled a couple of days, and caught an editor, a philosopher, and a poet, and might have caught more if we had had a mind to, for these waters are full of 'em, and big ones, too.

Coming from the mountainous regions of the Hudson, we saw little in the way of scenery that arrested our attention until we beheld the St. Lawrence, though one gets glimpses now and then as he is whirled along through New Hampshire and Vermont that make him wish for a fuller view. It is always a pleasure to bring to pass the geography of one's boyhood; 'tis like the fulfilling of a dream; hence it was with partial eyes that I looked upon the Merrimac, the Connecticut, and the Passumpsic,—dusky, squaw-colored streams, whose names I had learned so long ago. The traveler opens his eyes a little wider when he reaches Lake Memphremagog, especially if he have the luck to see it under such a sunset as we did, its burnished surface glowing like molten gold. This lake is an immense trough that accommodates both sides of the fence, though the larger and longer part of it by far is in Canada. Its western shore is bold and picturesque, being skirted by a detachment of the Green Mountains, the main range of which is seen careering along the horizon far to the south-west; to the east and north, whither the railroad takes you, the country is flat and monotonous.

The first peculiarity one notices about the farms in this northern country is the close proximity of the house and barn, in most cases the two buildings touching at some point,—an arrangement doubtless prompted by the deep snows and severe cold of this latitude. The typical Canadian dwelling-house is also presently met with on entering the Dominion,—a low, modest structure of hewn spruce logs, with a steep roof (containing two or more dormer windows) that ends in a smart curve, a hint taken from the Chinese pagoda. Even in the more costly brick or stone houses in the towns and vicinity this style is adhered to. It is so universal that one wonders if the reason of it also be not in the climate, the outward curve of the roof shooting the sliding snow farther away from the dwelling. It affords a wide projection, in many cases covering a veranda, and in all cases protecting the doors and windows without interfering with the light. In the better class of clap-boarded houses, the finish beneath the projecting eaves is also a sweeping curve, opposing and bracing that of the roof. A two-story country house or a Mansard roof, I do not remember to have seen in Canada; but in places they have become so enamored of the white of the snow that they even whitewash the roofs of their buildings, giving a cluster



LAKE MEMPHREMAGOG.

of them the impression, at a distance, of an encampment of great tents.

As we neared Point Levi, opposite Quebec, we got our first view of the St. Lawrence. "Iliad of rivers!" exclaimed my friend. "Yet unsung!" The Hudson must take a back seat now, and a good ways back. One of the two or three great water-courses of the globe is before you. No other river, I imagine, carries such a volume of pure cold water to the sea. Nearly all its feeders are trout and salmon streams, and what an airing and what a bleaching it gets on its course. Its history, its antecedents, are unparalleled. The great lakes are its camping-grounds; here its hosts repose under the sun and stars in areas like that of states and kingdoms, and it is its waters that shake the earth at Niagara. Where it receives the Saguenay it is twenty miles wide, and when it debouches into the Gulf it is a hundred. Indeed, it is a chain of Homeric sublimities from beginning to end. The great cataract is a fit sequel to the great lakes; the spirit that is born in vast and tempestuous Superior takes its full glut of power in that fearful chasm. If paradise is hinted in the Thousand Islands, hell is unveiled in that pit of terrors.

Its last escapade is the great rapids above Montreal, down which the steamer shoots with its breathless passengers, after which, inhaling and exhaling its mighty tides, it flows calmly to the sea.



ON THE ST. LAWRENCE, NEAR MONTREAL.

The St. Lawrence is the type of nearly all the Canadian rivers, which are strung with lakes and rapids and cataracts, and are full of peril and adventure.

Here we reach the oldest part of the continent, geologists tell us, and here we encounter a fragment of the Old World civilization. Quebec presents the anomaly of a mediæval European city in the midst of the American landscape. This air, this sky, these clouds, these trees, the look of these fields, are what we have always known; but these houses, and streets, and vehicles, and language, and physiognomy, are strange. As I walked upon the grand terrace, I saw the robin and kingbird and song-sparrow, and there in the tree, by Wolfe Monument, our summer warbler was at home. I presently saw, also, that our Republican crow was a British subject, and that he behaved here more like his European brother than he does in the States, being less wild and suspicious. On the Plains of Abraham, excellent timothy grass was growing and cattle were grazing. We found a path through the meadow, and, with the exception of a very abundant weed with a blue flower, saw nothing new or strange,—nothing but the steep, tin roofs of the city and its frowning wall and citadel. Sweeping around the far southern horizon, we could catch glimpses of mountains that were evidently in Maine or New Hampshire, while twelve or fifteen miles to the north the

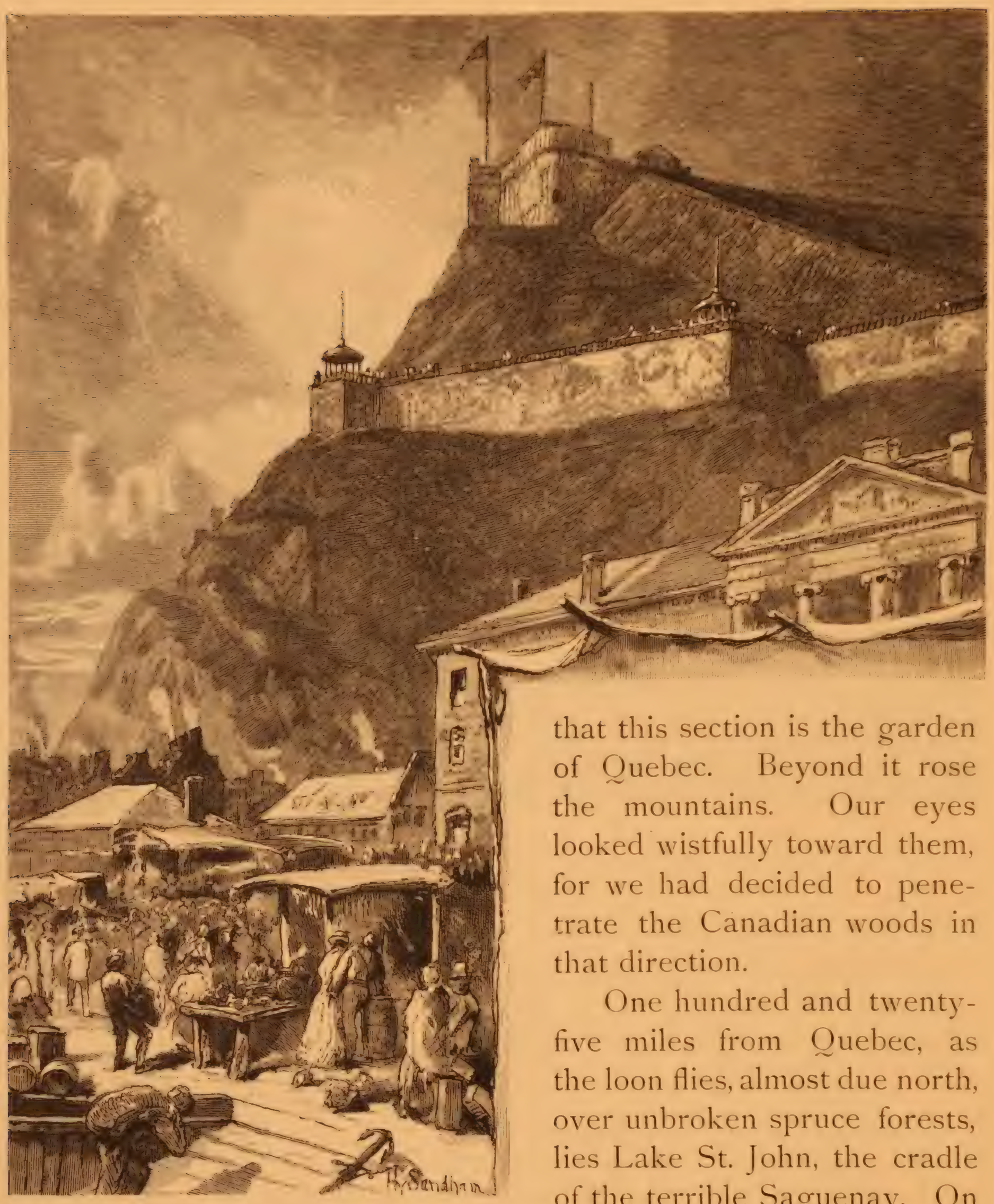
Laurentian ranges, dark and formidable, arrested the eye. Quebec, or the walled part of it, is situated on a point of land shaped not unlike the human foot, looking north-east, the higher and bolder side being next the river, with the main part of the town on the northern slope toward the St. Charles. Its toes are well down in the mud where this stream joins the St. Lawrence, while the citadel is high on the instep and commands the whole field. The grand Battery is a little



IN THE THOUSAND ISLANDS.

below, on the brink of the instep, so to speak, and the promenader looks down several hundred feet into the tops of the chimneys of this part of the lower town and upon the great river sweeping by north-eastward like another Amazon. The heel of our misshapen foot extends indefinitely toward Montreal. Upon it, on a level with the citadel, are the Plains of Abraham. It was up its high, almost perpendicular, sides that Wolfe clambered with his army, and stood in the rear of his enemy one pleasant September morning over a hundred years ago.

To the north and north-east of Quebec, and in full view from the upper parts of the city, lies a rich belt of agricultural country, sloping gently toward the river, and running parallel with it for many miles, called the Beauport slopes. The division of the land into uniform parallelograms, as in France, was a marked feature, and is so throughout the Dominion. A road ran through the midst of it lined with trees, and leading to the falls of the Montmorency. I imagine



THE CITADEL AT QUEBEC.

that this section is the garden of Quebec. Beyond it rose the mountains. Our eyes looked wistfully toward them, for we had decided to penetrate the Canadian woods in that direction.

One hundred and twenty-five miles from Quebec, as the loon flies, almost due north, over unbroken spruce forests, lies Lake St. John, the cradle of the terrible Saguenay. On the map, it looks like a great cuttle-fish, with its numerous arms and tentacula reaching out in all directions into the wilds. It is a large, oval body of water, thirty miles in its greatest diameter. The season here, owing to a sharp northern sweep of the isothermal lines, is two or three weeks earlier than at Quebec. The soil is warm and fertile, and there is a thrifty, growing settlement here, with valuable agricultural

produce, but no market nearer than Quebec, two hundred and fifty miles distant by water, with a hard, tedious land journey besides. In winter, the settlement can have little or no communication with the outside world.

To relieve this isolated colony and encourage further development of the St. John region, the Canadian Government is building a wagon-road through the wilderness from Quebec directly to the lake, thus economizing half the distance, as the road when completed will form with the old route, the Saguenay or St. Lawrence, one side of an equilateral triangle. A railroad was projected a few years ago over nearly the same ground, and the contract to build it given to an enterprising Yankee, who pocketed a part of the money and has never been heard of since. The road runs for one hundred miles through an unbroken wilderness, and opens up scores of streams and lakes abounding with trout, into which, until the road-makers fished them, no white man had ever cast a hook.

It was a good prospect, and we resolved to commit ourselves to the St. John road. The services of a young fellow, whom by reason of his impracticable French name we called Joe, was secured, and after a delay of twenty-four hours we were packed upon a Canadian buckboard, with hard-tack in one bag and oats in another, and the journey began. It was Sunday, and we held up our heads more confidently when we got beyond the throng of well-dressed church-goers. For ten miles, we had a good stone road and rattled along it at a lively pace. In about half that distance we came to a large brick church, where we began to see the rural population, or *habitans*. They came mostly in two-wheeled vehicles, some of the carts quite fancy, in which the young fellows rode complacently beside their girls. The two-wheeler predominates in Canada and is of all styles and sizes. After we left the stone road, we began to encounter the hills that are preliminary to the mountains. The farms looked like the wilder and poorer parts of Maine or New Hampshire. While Joe was getting a supply of hay of a farmer to take into the woods for his horse, I walked through a field in quest of wild strawberries. The season for them was past, it being the 20th of July, and I found barely enough to make me think that the strawberry here is far less pungent and high-flavored than with us.



A CALÈCHE.

The cattle in the fields and by the road-side looked very small and delicate, the effect, no doubt, of the severe climate. We saw many rude implements of agriculture,—such as wooden plows shod with iron. We passed several parties of men, women, and children from Quebec, picnicking in the "bush." Here it was little more than a "bush"; but while in Canada, we never heard the woods designated by any other term. I noticed, also, that when a distance of a few miles or of a fraction of a mile is to be designated, the French Canadian does not use the term miles, but says it's so many acres through or to the next place.

This fondness for the "bush" at this season seems quite a marked feature in the social life of the average Quebecer, and is one of the original French traits that holds its own among them. Parties leave the city in carts and wagons by midnight, or earlier, and drive out as far as they can the remainder of the night, in order to pass the whole Sunday in the woods, despite the mosquitoes and black flies. Those we saw seemed a decent, harmless set, whose idea of a good time was to be in the open air, and as far into the "bush" as possible.

The post-road, as the new St. John's road is also called, begins twenty miles from Quebec at Stoneham, the farthest settlement. Five miles into the forest upon the new road is the hamlet of La Chance (pronounced La Shaunce), the last house till you reach the lake, one hundred and twenty miles distant. Our destination the first night was La Chance's; this would enable us to reach the Jacques Cartier River, forty miles farther, where we proposed to encamp, in the afternoon of the next day. We were now fairly among the mountains, and the sun was well down behind the trees when we entered upon the post-road. It proved to be a wide, well-built highway, grass-grown, but in good condition. After an hour's travel we began to see signs of a clearing, and about six o'clock drew up in front of the long, low, log habitation of La Chance. Their hearth-stone was outdoor at this season, and its smoke rose through the still atmosphere in a frail column toward the sky. The family was gathered here, and welcomed us cordially as we drew up, the master shaking us by the hand as if we were old friends. His English was very poor, and our French was poorer; but with Joe as a bridge between us, communication on a pitch was kept up. His wife could speak no English; but here true French politeness and graciousness was a language we could readily understand. Our supper was got ready from our own supplies, while we sat or stood in the open air about the fire. The clearing comprised fifty or sixty acres of rough land in the bottom of a narrow valley, and bore indifferent crops of oats, barley, potatoes, and timothy grass. The latter was just in bloom, being a month or more later than with us. The primitive woods, mostly of birch, with a sprinkling of spruce, put a high cavernous wall about the scene. How sweetly the birds sang, their notes seeming to have unusual strength and volume in



A CANADIAN INTERIOR.

this forest-bound opening! The principal singer was the white-throated sparrow, which we heard and saw everywhere on the route. He is called here *la sifflcur*—the whistler, and very delightful his whistle was. From the forest came the evening hymn of a thrush,—the olive-backed, perhaps,—like, but less clear and full than, the veerie's.

In the evening, we sat about the fire in rude home-made chairs, and had such broken and disjointed talk as we could manage. Our host had lived in Quebec, and been a school-teacher there; he had wielded the birch until he lost his health, when he came here and the birches gave it back to him. He was now hearty and well, and had a family of six or seven children about him.

We were given a good bed that night, and fared better than we expected. About one o'clock, I was awakened by suppressed voices outside the window. Who could it be? Had a band of brigands surrounded the house? As our outfit and supplies had not been removed from the wagon in front of the door, I got up, and, lifting one corner of the window paper, peeped out. I saw in the dim moonlight four or five men engaged in low conversation. Presently, one

of the men advanced to the door and began to rap and call the name of our host. Then I knew their errand was not hostile; but the weird effect of that regular alternate rapping and calling ran through my dream all the rest of the night, Rat-tat, tat, tat,—La Chance. Rat-tat, tat,—La Chance, five or six times repeated, before La Chance heard and responded. Then the door opened and they came in, when it was jabber, jabber, jabber in the next room till I fell asleep.

In the morning, to my inquiry as to who the travelers were and what they wanted, La Chance said they were old acquaintances going a-fishing and had stopped to have a little talk.

Breakfast was served early and we were upon the road before the sun. Then began a forty-mile ride through a dense Canadian spruce forest over the drift and bowlders of the paleozoic age. Up to this point, the scenery had been quite familiar,—not much unlike that of the Catskills,—but now there was a change; the birches disappeared, except now and then a slender white or paper birch, and spruce everywhere prevailed. A narrow belt on each side of the road had been blasted by fire, and the dry, white stems of the trees stood stark and stiff. The road ran pretty straight, skirting the mountains and treading the valleys, and hour after hour the dark, silent woods wheeled past us. Swarms of black flies—those insect wolves—waylaid us, and hung to us till a smart spurt of the horse, where the road favored, left them behind. But a species of large horse-fly, black and vicious, it was not so easy to get rid of. When they alighted upon the horse, we would demolish them with the whip or with our felt hats, a proceeding the horse soon came to understand and appreciate. The white and gray Laurentian bowlders lay along the road-side. The soil seemed as if made up of decayed and pulverized rock, and doubtless contained very little vegetable matter. It is so barren that it will never repay clearing and cultivating.

Our course was an up-grade toward the highlands that separate the water-shed of St. John Lake from that of the St. Lawrence; and as we proceeded, the spruce became smaller and smaller till the trees were seldom more than eight or ten inches in diameter. Nearly all of them terminated in a dense tuft at the top, beneath which the stem would be bare for several feet, giving them the appearance, my friend said, as they stood sharply defined along the

crests of the mountains, of cannon-swabs. Endless, interminable successions of these cannon-swabs, each just like its fellow, came and went, came and went, all day. Sometimes we could see the road a mile or two ahead, and it was as lonely and solitary as a path in the desert. Periods of talk and song and jollity were succeeded by long stretches of silence. A buckboard upon such a road does not conduce to a continuous flow of animal spirits. A good brace for the foot and a good hold for the hand is one's main lookout much of the time. We walked up the steeper hills, one of them nearly a mile long, then clung grimly to the board during the rapid descent of the other side.

We occasionally saw a solitary pigeon—in every instance a cock—leading a forlorn life in the wood, a hermit of his kind, or, more probably, a rejected and superfluous male. We came upon two or three broods of spruce-grouse in the road, so tame that one could have knocked them over with poles. We passed many beautiful lakes; among others, the Two Sisters, one on each side of the road. At noon, we paused at a lake in a deep valley, and fed the horse and had lunch. I was not long in getting ready my fishing-tackle, and upon a raft made of two logs pinned together floated out upon the lake and quickly took all the trout we wanted.

Early in the afternoon, we entered upon what is called La Grand Brulure, or Great Burning, and to the desolation of living woods succeeded the greater desolation of a blighted forest. All the mountains and valleys, as far as the eye could see, had been swept by the fire, and the bleached and ghostly skeletons of the trees alone met the gaze. The fire had come over from the Saguenay, a hundred or more miles to the east, seven or eight years before, and had consumed or blasted everything in its way. We saw the skull of a moose said to have perished in the fire. For three hours we rode through this valley and shadow of death. In the midst of it, where the trees had nearly all disappeared, and where the ground was covered with coarse, wild grass, we came upon the Morancy River, a placid yellow stream, twenty or twenty-five yards wide, abounding with trout. We walked a short distance along its banks and peered curiously into its waters. The mountains on either hand had been burned by the fire until in places their great granite bones were bare and white.

At another point, we were within ear-shot for a mile or more of a brawling stream in the valley below us, and now and then caught a glimpse of foaming rapids or cascades through the dense spruce,—a trout stream that probably no man had ever fished, as it would be quite impossible to do so in such a maze and tangle of wood.

We neither met nor passed nor saw any travelers until late in the afternoon, when we descried, far ahead, a man on horseback. It was a welcome relief. It was like a sail at sea. When he saw us, he drew rein and awaited our approach. He, too, had probably tired of the solitude and desolation of the road. He proved to be a young Canadian going to join the gang of workmen at the farther end of the road.

About four o'clock, we passed another small lake, and in a few moments more drew up at the bridge over the Jacques Cartier River, and our forty-mile ride was finished. There was a stable here that had been used by the road-builders and was now used by the teams that hauled in their supplies. This would do for the horse; a snug log shanty, built by an old trapper and hunter for use in the winter, a hundred yards below the bridge, amid the spruces on the bank of the river, when rebedded and refurnished, would do for us. The river at this point was a swift, black stream from thirty to forty feet wide, with a strength and a bound like a moose. It was not shrunken and emaciated, like similar streams in a cleared country, but full, copious, and strong. Indeed, one can hardly realize how the lesser watercourses have suffered by the denuding of the land of its forest covering, until he goes into the primitive woods and sees how bounding and athletic they are there. They are literally well fed, and their measure of life is full. In fact, a trout brook is as much a thing of the woods as a moose or deer and will not thrive well in the open country.

Three miles above our camp was Great Lake Jacques Cartier, the source of the river, a sheet of water nine miles long and from one to three wide; fifty rods below was Little Lake Jacques Cartier, an irregular body about two miles across. Stretching away on every hand, bristling on the mountains and darkling in the valleys, was the illimitable spruce woods. The moss in them covered the ground nearly knee-deep, and lay like newly fallen snow, hiding rocks and logs, filling depressions, and muffling the foot. When it was dry, one could find a most delightful couch anywhere.

The spruce seems to have colored the water, which is a dark amber color, but entirely sweet and pure. There needed no better proof of the latter fact than the trout with which it abounded and their clear and vivid tints. In its lower portions, near the St. Lawrence, the Jacques Cartier River is a salmon stream; but these fish have never been found as near its source as we were, though there is no apparent reason why they should not be.

There is, perhaps, no moment in the life of an angler fraught with so much eagerness and impatience as when he first finds himself upon the bank of a new and long-sought stream. When I was a boy and used to go a-fishing, I could seldom restrain my eagerness after I arrived in sight of the brook or pond, and must needs run the rest of the way. Then the delay in rigging my tackle was a trial my patience was never quite equal to. After I had made a few casts, or had caught one fish, I could pause and adjust my line properly. I found some remnant of the old enthusiasm still in me when I sprang from the buckboard that afternoon and saw the strange river rushing by. I would have given something if my tackle had been rigged so that I could have tried on the instant the temper of the trout that had just broken the surface within easy reach of the shore. But I had anticipated this moment coming along, and had surreptitiously undone my rod-case and got my reel out of my bag, and was therefore a few moments ahead of my companion in making the first cast. The trout rose readily; and, almost too soon, we had more than enough for dinner, though no "rod-smashers" had been seen or felt. Our experience the next morning and during the day, and the next morning in the lake, in the rapids, in the pools, was about the same; there was a surfeit of trout eight or ten inches long, though we rarely kept any under ten; but the big fish were lazy and would not rise: they were in the deepest water, and did not like to get up.

The third day, in the afternoon, we had our first and only thorough sensation in the shape of a big trout. It came none too soon. The interest had begun to flag. But one big fish a week will do. It is a pinnacle of delight in the angler's experience that he may well be three days in working up to, and, once reached, it is three days down to the old humdrum level again. At least, it is with me. It was a dull, rainy day; the fog rested low upon the mountains, and the time hung heavily upon our hands. About three o'clock, the rain

slackened and we emerged from our den, Joe going to look after his horse, which had eaten but little since coming into the woods, the poor creature was so disturbed by the loneliness and the black flies; I to make preparations for dinner, while my companion lazily took his rod and stepped to the edge of the big pool in front of the camp. At the first introductory cast, and when his fly was not fifteen feet from him upon the water, there was a lunge and a strike, and apparently the fisherman had hooked a bowlder. I was standing a few yards below, engaged in washing out the coffee-pail, when I heard him call out:

"I have got him now!"

"Yes, I see you have," said I, noticing his bending pole and moveless line; "when I am through, I will help you get loose."

"No; but I'm not joking," said he; "I have got a big fish."

I looked up again, but saw no reason to change my impression, and kept on with my work.

It is proper to say that my companion was a novice at fly-fishing, he never having cast a fly till upon this trip.

Again he called out to me; but, deceived by his coolness and nonchalant tones, and by the lethargy of the fish, I gave little heed. I knew very well that if I had struck a fish that held me down in that way, I should have been going through a regular war-dance on that circle of bowlder-tops, and should have scared the game into activity, if the hook had failed to wake him up. But as the farce continued, I drew near.

"Does that look like a stone or a log?" said my friend, pointing to his quivering line, slowly cutting the current up toward the center of the pool.

My skepticism vanished in an instant, and I could hardly keep my place on the top of the rock.

"I can feel him breathe," said the now warming fisherman; "just feel of that pole."

I put my eager hand upon the butt, and could easily imagine I felt the throb or pant of something alive down there in the black depths. But whatever it was moved about like a turtle. My companion was praying to hear his reel spin, but it gave out now and then only a few hesitating clicks. Still, the situation was excitingly dramatic, and we were all actors. I rushed for the landing-net, but

being unable to find it, shouted desperately for Joe, who came hurrying back, excited before he had learned what the matter was. The net had been left at the lake below and must be had with the greatest dispatch. In the meantime, I skipped about from bowlder to bowlder as the fish worked this way or that about the pool, peering into the water to catch a glimpse of him, for he had begun to yield a little to the steady strain that was kept upon him. Presently I saw a shadowy, unsubstantial something just emerge from the black depths, then vanish. Then I saw it again, and this time the huge proportions of the fish were faintly outlined by the white facings of his fins. The sketch lasted but a twinkling; it was only a flitting shadow upon a darker background, but it gave me the profoundest Ike Walton thrill I ever experienced. I had been a fisher from my earliest boyhood; I came from a race of fishers; trout streams gurgled about the roots of the family tree, and there was a long accumulated and transmitted tendency and desire in me that that sight gratified. I did not wish the pole in my own hands; there was quite enough electricity overflowing from it and filling the air for me. The fish yielded more and more to the relentless pole, till in about fifteen minutes from the time he was struck, he came to the surface, then made a little whirlpool where he disappeared again. But presently he was up a second time and lashing the water into foam as the angler led him toward the rock upon which I was perched, net in hand. As I reached toward him, down he went again, and, taking another circle of the pool, came up still more exhausted, when, between his paroxysms, I carefully ran the net over him and lifted him ashore, amid, it is needless to say, the wildest enthusiasm of the spectators. The congratulatory laughter of the loons down on the lake showed how even the outsiders sympathized. Much larger trout have been taken in these waters and in others, but this fish would have swallowed any three we had ever before caught.

"What does he weigh?" was the natural inquiry of each; and we took turns "hefting" him. But gravity was less potent to us just then than usual, and the fish seemed astonishingly light.

"Four pounds," we said; but Joe said more. So we improvised a scale. A long strip of board was balanced across a stick, and our groceries served as weights. A four-pound package of sugar kicked

the beam quickly; a pound of coffee was added; still it went up; then a pound of tea, and still the fish had a little the best of it. But we called it six pounds, not to drive too sharp a bargain with fortune, and was more than satisfied. Such a beautiful creature! marked in every respect like a trout of six inches. We feasted our eyes upon him for half an hour. We stretched him upon the ground and admired him; we laid him across a log and withdrew a few paces and admired him; we hung him against the shanty and turned our heads from side to side as women do when they are selecting dress-goods, the better to take in the full force of the effect.

He graced the board, or stump, that afternoon and was the sweetest fish we had taken. The flesh was a deep salmon color and very rich. We had before discovered that there were two varieties of trout in these waters, irrespective of size,—the red-fleshed and the white-fleshed,—and that the former were best.

This success gave an impetus to our sport that carried us through the rest of the week finely. We had demonstrated that there were big trout here, and that they would rise to a fly. Henceforth, big fish were looked to as a possible result of every excursion. To me, especially, the desire to at least match my companion, who had been my pupil in the art, was keen and constant. We built a raft of logs, and upon it I floated out upon the lake, whipping its waters right and left, morning, noon, and night. Many fine trout came to my hand, and were released because they did not fill the bill.

The lake became my favorite resort, while my companion preferred rather the shore or the long, still pool above, where there was a rude make-shift of a boat, made of common box-boards.

Upon the lake, you had the wildness and solitude at arms-length and could better take their look and measure. You became something apart from them; you emerged and had a vantage-ground like that of a mountain peak, and could contemplate them at your ease. Seated upon my raft, and slowly carried by the current or drifted by the breeze, I had many a long, silent look into the face of the wilderness, and found the communion good. I was alone with the spirit of the forest-bound lakes and felt its presence and magnetism. I played hide-and-seek with it about the nooks and corners, and lay in wait for it upon a little island, crowned with a clump of trees, that was moored just to one side the current near the head of the lake.

Indeed, there is no depth of solitude that the mind does not endow with some human interest. As in a dead silence the ear is filled with its own murmur, so amid these aboriginal scenes one's feelings and sympathies become external to him, as it were, and he holds converse with them. Then a lake is the ear as well as the eye of a forest. It is the place to go to listen and ascertain what sounds are abroad in the air. They all run quickly thither and report. If any creature had called in the forest for miles about I should have heard it. At times, I could hear the distant roar of water off beyond the outlet of the lake. The sound of the vagrant winds purring here and there in the tops of the spruces reached my ear. A breeze would come slowly down the mountain, then strike the lake, and I could see its footsteps approaching, by the changed appearance of the water. How slowly the winds move at times, sauntering like one on a Sunday walk! A breeze always enlivens the fish; a dead calm, and all pennants sink; your activity with your fly is ill-timed, and you soon take the hint and stop. Becalmed upon my raft, I observed, as I have often done before, that the life of nature ebbs and flows, comes and departs, in these wilderness scenes; one moment her stage is thronged and the next quite deserted. Then there is a wonderful unity of movement in the two elements, air and water. When there is much going on in one, there is quite sure to be much going on in the other. You have been casting, perhaps, for an hour with scarcely a jump or any sign of life anywhere about you, when presently the breeze freshens, and the trout begin to respond, and then of a sudden all the performers rush in; ducks come sweeping by, loons laugh and wheel overhead, then approach the water on a long, gentle incline, plowing deeper and deeper into its surface until their momentum is arrested or converted into foam; the fish-hawk screams, the bald eagle goes flapping by, and your eyes and hands are full. Then the tide ebbs, and both fish and fowl are gone.

Patiently whipping the waters of the lake from my rude float, I became an object of great interest to the loons. I had never seen these birds before in their proper habitat, and the interest was mutual. When they had paused on the Hudson during their spring and fall migrations, I had pursued them in my boat to try to get near them. Now the case was reversed; I was the interloper now, and they would come out and study me. Sometimes

six or eight of them would be swimming about watching my movements, but they were wary and made a wide circle. One day, one of their number volunteered to make a thorough reconnoissance. I saw him leave his comrades and swim straight toward me. He came, bringing first one eye to bear upon me, then the other. When about half the distance was passed over, he began to waver and hesitate. To encourage him I stopped casting, and taking off my hat, began to wave it slowly to and fro, as in the act of fanning myself. This started him again,—this was a new trait in the creature that he must scrutinize more closely. On he came, till all his markings were distinctly seen. With one hand I pulled a little revolver from my hip pocket, and when the loon was about fifty yards distant and had begun to sidle around me, I fired. At the flash I saw two webbed feet twinkle in the air, and the loon was gone! Lead could not have gone down so quickly. The bullet cut across the circles where he disappeared. In a few moments he re-appeared a couple of hundred yards away. "Ha-ha-ha-a-a," said he; "ha-ha-ha-a-a" and "ha-ha-ha-aa," said his comrades, who had been looking on; and "ha-ha-ha-a-a," said we all, echo included. He approached a second time, but not so closely, and when I began to creep back toward the shore with my heavy craft, pawing the water first upon one side, then the other, he followed, and with ironical laughter witnessed my efforts to stem the current at the head of the lake. I confess it was enough to make a more solemn bird than the loon laugh; but it was no fun for me, and generally required my last pound of steam.

The loons flew back and forth from one lake to the other, and their voices were about the only notable wild sounds to be heard.

One afternoon, quite unexpectedly, I struck my big fish, in the head of the lake. I was first advised of his approach by two or three trout jumping clear from the water to get out of his lordship's way. The water was not deep just there, and he swam so near the surface that his enormous back cut through. With a swirl he swept my fly under and turned. My hook was too near home, and my rod too near a perpendicular, to strike well. More than that, my presence of mind came near being unhorsed by the sudden apparition of the fish. If I could have had a moment's notice, or if I had not seen the monster, I should have fared better and the

fish worse. I struck, but not with enough decision, and before I could reel up, my empty hook came back. The trout had carried it in his jaws till the fraud was detected and then spat it out. He came a second time, and made a grand commotion in the water, but not in my nerves, for I was ready then, but failed to take the fly and so to get his weight and beauty in these pages. As my luck failed me at the last, I will place my loss at the full extent of the law, and claim that nothing less than a ten-pounder was spirited away from my hand that day. I might not have saved him, netless as I was upon my cumbrous raft; but I should at least have had the glory of the fight and the consolation of the fairly vanquished.

These trout are not properly lake-trout, but the common brook-trout *(S. Fontanalis)*. The largest ones are taken with live bait through the ice in winter. The Indians and the *habitans* bring them out of the wood from here and from Snow Lake on their toboggans, from two and a half to three feet long. They have kinks and ways of their own. About half a mile above camp, we discovered a deep oval bay to one side the main current of the river, that evidently abounded in big fish. Here they disported themselves. It was a favorite feeding-ground, and late every afternoon the fish rose all about it, making those big ripples the angler delights to see. A trout, when he comes to the surface, starts a ring about his own length in diameter; most of the rings in the pool, when the eye caught them, were like barrel-hoops, but the haughty trout ignored all our best efforts; not one rise did we get. We were told of this pool on our return to Quebec, and that other anglers had a similar experience there. But occasionally some old fisherman, like a great advocate who loves a difficult case, would set his wits to work and bring into camp an enormous trout taken there.

I had been told in Quebec that I would not see a bird in the woods, not a feather of any kind. But I knew I should, though they were not numerous. I saw and heard a bird nearly every day on the tops of the trees about, that I think was one of the cross-bills. The kingfisher was there ahead of us with his loud clicking reel. The osprey was there, too, and I saw him abusing the bald eagle, who had probably just robbed him of a fish. The yellow-rumped warbler I saw, and one of the kinglets was leading its lisping brood about through the spruces. In every opening, the white-throated sparrow



HAWK AND KINGBIRD.

abounded, striking up his clear, sweet whistle at times so loud and sudden that one's momentary impression was that some farm-boy was approaching or was secreted there behind the logs. Many times, amid those primitive solitudes, I was quite startled by the human tone and quality of this whistle. It is little more than a beginning; the bird never seems to finish the strain suggested. The Canada jay was there also, very busy about some important private matter.

One lowery morning as I was standing in camp, I saw a lot of ducks borne swiftly down by the current around the bend in the river a few rods above. They saw me at the same instant and turned toward the shore. On hastening up there, I found the old bird rapidly leading her nearly grown brood through the woods, as

if to go around our camp. As I pursued them, they ran squawking with outstretched stubby wings, scattering right and left, and seeking a hiding-place under the logs and débris. I captured one and carried it into camp. It was just what Joe wanted; it would make a valuable decoy. So he kept it in a box, fed it upon oats, and took it out of the woods with him.

We found the camp we had appropriated was a favorite stopping-place of the carmen who hauled in supplies for the gang of two hundred road-builders. One rainy day, near night-fall, no less than eight carts drew up at the old stable, and the rain-soaked drivers, after picketing and feeding their horses, came down to our fire. We were away, and Joe met us on our return with the unwelcome news. We kept open house so far as the fire was concerned; but our roof was a narrow one at the best, and one or two leaky spots made it still narrower.

"We shall probably sleep out-of-doors to-night," said my companion, "unless we are a match for this posse of rough teamsters."

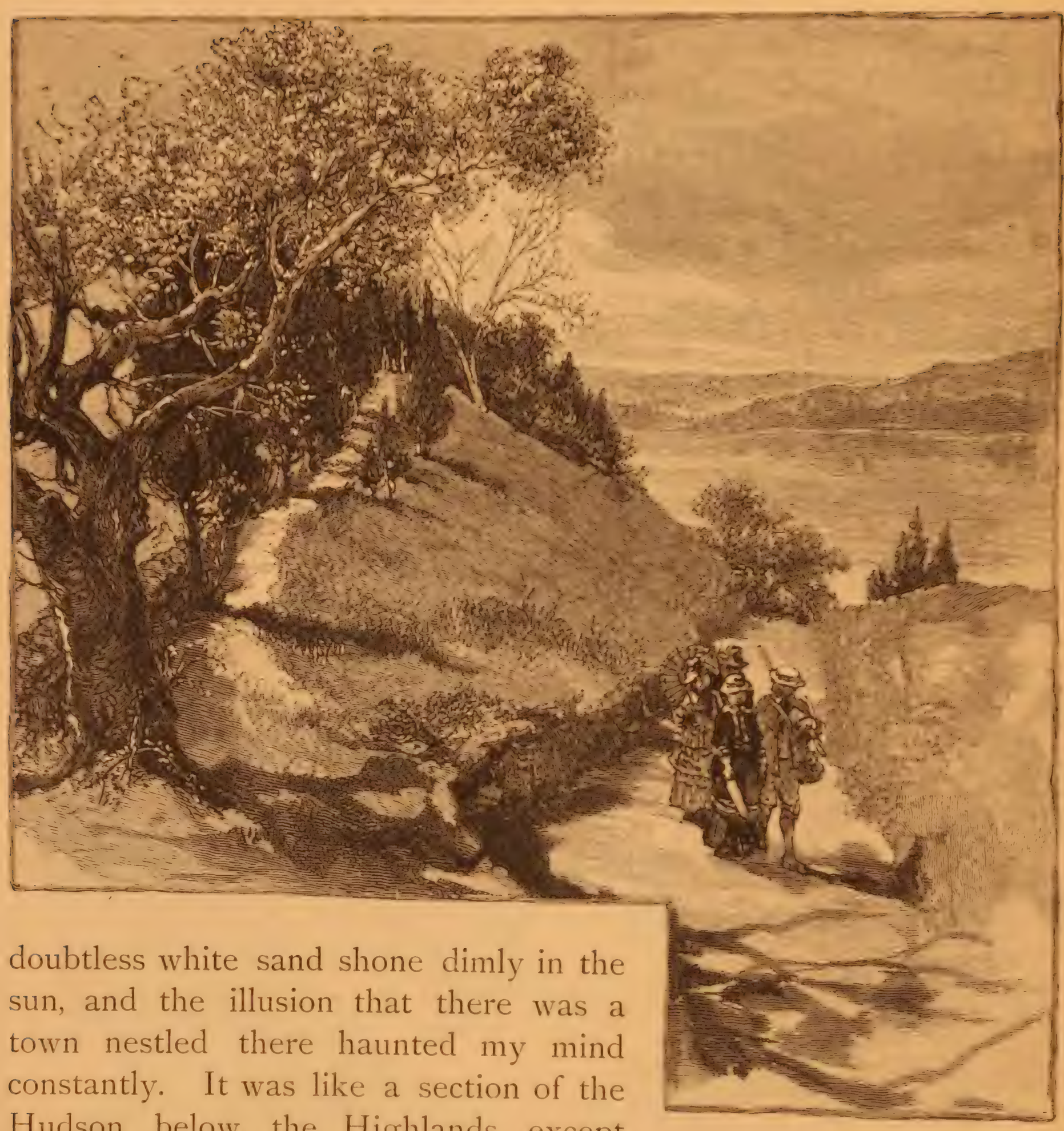
But the men proved to be much more peaceably disposed than the same class at home; they apologized for intruding, pleading the inclemency of the weather, and were quite willing, with our permission, to take up with pot-luck about the fire and leave us the shanty. They dried their clothes upon poles and logs, and had their fun and their bantering amid it all. An Irishman among them did about the only growling; he invited himself into our quarters, and before morning had Joe's blanket about him in addition to his own.

On Friday, we made an excursion to Great Lake Jacques Cartier, paddling and poling up the river in the rude box-boat. It was a bright, still morning after the rain, and everything had a new, fresh appearance. Expectation was ever on tiptoe, as each turn in the river opened a new prospect before us. How wild and shaggy and silent it was! What fascinating pools, what tempting stretches of trout-haunted water! Now and then we would catch a glimpse of long black shadows starting away from the boat and shooting through the sunlit depths; but no sound or motion on shore was heard or seen. Near the lake we came to a long, shallow rapid, when we pulled off our shoes and stockings, and, with our trowsers rolled up above our knees, towed the boat up it, wincing and cringing amid the sharp, slippery stones. With benumbed feet and legs, we reached



ON THE WAY TO THE RIVER.

the still water that forms the stem of the lake, and presently saw the arms of the wilderness open and the long, deep-blue expanse in their embrace. We rested and bathed, and gladdened our eyes with the singularly beautiful prospect. The shadows of summer clouds were slowly creeping up and down the sides of the mountains that hemmed it in. On the far eastern shore, near the head, banks of what was



ALONG THE HUDSON.

doubtless white sand shone dimly in the sun, and the illusion that there was a town nestled there haunted my mind constantly. It was like a section of the Hudson below the Highlands, except that these waters were bluer and colder, and these shores darker than even Sir Hendrick first looked upon; but surely, one felt, a steamer will round that point presently, or a sail drift into view! We paddled a mile or more up the east shore, then across to the west, and found such pleasure in simply gazing upon the scene that our rods were quite neglected. We did some casting after awhile, but raised no fish of any consequence till we were in the outlet again, when they responded so freely that the "disgust of trout" was soon upon us.

At the rapids, on our return, as I was standing to my knees in the swift, cold current and casting into a deep hole behind a huge

bowlder that rose four or five feet above the water amid-stream, two trout, one of them a large one, took my flies; and finding the fish and the current united too strong for my tackle, I sought to gain the top of the bowlder, in which attempt I got wet to my middle and lost my fish. After I had gained the rock, I could not get away again with my clothes on without swimming; which, to say nothing of wet garments the rest of the way home, I did not like to do amid those rocks and swift currents; so, after a vain attempt to communicate with my companion above the roar of the water, I removed my clothing, left them together with my tackle upon the rock, and by a strong effort stemmed the current and reached the shore. The boat was a hundred yards above, and when I arrived there my teeth were chattering with the cold, my feet were numb with bruises, and the black flies were making the blood stream down my back. We hastened back with the boat, and by wading out into the current again and holding it by a long rope, it swung around with my companion aboard, and was held in the eddy behind the rock. I clambered up, got my clothes on, and we were soon shooting downstream toward home; but the winter of discontent that shrouded one-half of me made sad inroads upon the placid feeling of a day well spent that enveloped the other, all the way to camp.

That night something carried off all our fish,—doubtless a fisher or lynx, as Joe had seen an animal of some kind about camp that day.

I must not forget the two red squirrels that frequented the camp during our stay, and that were so tame they would approach within a few feet of us and take the pieces of bread or fish tossed to them.

When a particularly fine piece of hard-tack was secured, they would spin off to their den with it somewhere near by.

Caribou abound in these woods, but we saw only their tracks; and of bears, which are said to be plentiful, we saw no signs.

Saturday morning, we packed up our traps and started on our return, and found that the other side of the spruce-trees and the vista of the lonely road going south were about the same as coming north. But we understood the road better and the buckboard better, and our load was lighter, hence the distance was easier accomplished.

I saw a solitary robin by the road-side, and wondered what could have brought this social and half-domesticated bird so far

into these wilds. In La Grand Brulure, a hermit-thrush perched upon a dry tree in a swampy place and sang most divinely. We paused to listen to his clear, silvery strain, poured out without stint upon that unlistening solitude. I was half persuaded I had heard him before on first entering the woods.

We nooned again at No Man's Inn, on the banks of a trout lake, and fared well and had no reckoning to pay. Late in the afternoon, we saw a lonely pedestrian laboring up a hill far ahead of us. When he heard us coming he leaned his back against the bank, and was lighting his pipe as we passed. He was an old man, an Irishman, and looked tired. He had come from the farther end of the road, fifty miles distant, and had thirty yet before him to reach town. He looked the dismay he evidently felt, when, in answer to his inquiry, we told him it was yet ten miles to the first house, La Chance's. But there was a roof nearer than that, where he doubtless passed the night, for he did not claim hospitality at the cabin of La Chance. We arrived there betimes, but found the "spare bed" assigned to other guests; so we were comfortably lodged upon the haymow. One of the boys lighted us up with a candle, and made level places for us upon the hay.

La Chance was one of the game wardens or constables appointed by the Government to see the game laws enforced. Joe had not felt entirely at his ease about the duck he was surreptitiously taking to town, and when, by its "quack," "quack," it called upon La Chance for protection, he responded at once. Joe was obliged to liberate it then and there, and to hear the law read and expounded, and be threatened till he turned pale besides. It was evident that they follow the Home Government in the absurd practice of enforcing their laws in Canada. La Chance said he was under oath not to wink at or permit any violation of the law, and seemed to think that made a difference.

We were off early in the morning, and before we had gone two miles met a party from Quebec who must have been driving nearly all night to give the black flies an early breakfast. Before long, a slow rain set in; we saw another party who had taken refuge in a house in a grove. When the rain had become so brisk that we began to think of seeking shelter ourselves, we passed a party of young men and boys—sixteen of them—in a cart turning back to

town, water-soaked and heavy (for the poor horse had all it could pull), but merry and good-natured. We paused awhile at the farm-house where we had got our hay on going out, were treated to a drink of milk and some wild red cherries, and when the rain slackened drove on, and by ten o'clock saw the city, eight miles distant, with the sun shining upon its steep, tinned roofs.

The next morning, we set out per steamer for the Saguenay, and entered upon the second phase of our travels, but with less relish than we could have wished. Scenery-hunting is the least satisfying pursuit I have ever engaged in. What one sees in his necessary travels, or doing his work, or going a-fishing, seems worth while; but the famous view you go out in cold blood to admire is quite apt to elude you. Nature loves to enter a door another hand has opened; a mountain view, or a water-fall, I have noticed, never looks better than when one has just been warmed up by the capture of a big trout. If we had been bound for some salmon-stream up the Saguenay, we should perhaps have possessed that generous and receptive frame of mind—that open house of the heart—which makes one "eligible to any góod fortune," and the grand scenery would have come in as fit sauce to the salmon. An adventure, a bit of experience of some kind, is what one wants when he goes forth to admire woods and waters,—something to create a draught and make the embers of thought and feeling brighten. Nature, like certain wary game, is best taken by seeming to pass by her, intent on other matters.

But without any such errand, or occupation, or indirection, we managed to extract considerable satisfaction from the view of the lower St. Lawrence and the Saguenay.

We had not paid the customary visit to the falls of the Montmorency, but we shall see them after all, for before we are a league from Quebec they come into view on the left. A dark glen or chasm there at the end of the Beaufort Slopes seems suddenly to have put on a long white apron. By intently gazing, one can see the motion and falling of the water, though it is six or seven miles away. There is no sign of the river above or below but this trembling white curtain of foam and spray.

It was very sultry when we left Quebec, but about noon we struck much clearer and cooler air, and soon after ran into an im-

mense wave or puff of fog that came drifting up the river and set all the fog-guns booming along shore. We were soon through it into clear, crisp space, with room enough for any eye to range in. On the south, the shores of the great river appear low and uninteresting, but on the north, they are bold and striking enough to make it up—high, scarred, unpeopled mountain ranges the whole way. The points of interest to the eye in the broad expanse of water were the white porpoises that kept rolling, rolling in the distance all day. They came up like the perimeter of a great wheel, that turns slowly and then disappears. From mid-forenoon we could see far ahead an immense column of yellow smoke rising up and flattening out upon the sky and stretching away beyond the horizon. Its form was that of some aquatic plant that shoots a stem up through the water and spreads its broad leaf upon the surface. This smoky lily-pad must have reached nearly to Maine. It proved to be in the Indian country, in the mountains beyond the mouth of the Saguenay, and must have represented an immense destruction of forest timber.

The steamer is two hours crossing the St. Lawrence from Rivière du Loup to Tadousac. The Saguenay pushes a broad sweep of dark-blue water down into its mightier brother, that is sharply defined from the deck of the steamer. The two rivers seem to touch, but not to blend, so proud and haughty is this chieftain from the north. On the mountains above Tadousac one could see banks of sand left by the ancient seas. Naked rock and sterile sand are all the Tadousacker has to make his garden of, so far as I observed. Indeed, there is no soil along the Saguenay until you get to Ha-ha Bay, and then there is not much, and poor quality at that.

What the ancient fires did not burn, the ancient seas have washed away. I overheard an English resident say to a Yankee tourist, "You will think you are approaching the end of the world up here." It certainly did suggest something apocryphal or antimundane—a segment of the moon or of a cleft asteroid, matter dead or wrecked. The world-builders must have had their foundry up in this neighborhood, and the bed of this river was doubtless the channel through which the molten granite flowed. Some mischief-loving god has let in the sea while things were yet red-hot, and there has been a time here. But the channel still seems filled with water from the mid-Atlantic, cold and blue-black, and in places between seven

and eight thousand feet deep (one and a half miles). In fact, the enormous depth of the Saguenay is one of the wonders of physical geography. It is as great a marvel in its way as Niagara.

The ascent of the river is made by night, and the traveler finds himself in Ha-ha Bay in the morning. The steamer lies here several hours before starting on her return trip, and takes in large quantities of white birch wood, as she does also at Tadousac. The chief product of the country seemed to be huckleberries, of which large quantities are shipped to Quebec in rude board boxes, holding about a peck each. Little girls came aboard or lingered about the landing with cornucopias of birch-bark filled with red raspberries; five cents for about half a pint was the usual price. The village of St. Alphonse, where the steamer tarries, is a cluster of small, humble dwellings, dominated, like all Canadian villages, by an immense church. Usually the church will hold all the houses in the village; pile them all up and they would hardly equal it in size; it is the one conspicuous object, and is seen afar; and on the various lines of travel one sees many more priests than laymen. They appear to be about the only class that stir about and have a good time. Many of the houses were covered with birch-bark,—the canoe birch —held to its place by perpendicular strips of board or split poles.

A man with a horse and a buckboard persuaded us to give him twenty-five cents each to take us two miles up the St. Alphonse River to see the salmon jump. There is a high saw-mill dam there, which every salmon in his upward journey tries his hand at leaping. A race-way has been constructed around the dam for their benefit, which, it seems, they do not use till they have repeatedly tried to scale the dam. The day before our visit three dead fish were found in the pool below, killed by too much jumping. Those we saw had the jump about all taken out of them; several did not get more than half their length out of the water, and occasionally only an impotent nose would protrude from the foam. One fish made a leap of three or four feet and landed on an apron of the dam and tumbled helplessly back; he shot up like a bird and rolled back like a clod. This was the only view of salmon, the buck of the rivers, we had on our journey.

It was a bright and flawless midsummer day that we sailed down the Saguenay, and nothing was wanting but a good excuse for being

there. The river was as lonely as the St. John's road; not a sail or a smoke-stack the whole sixty-five miles. The scenery culminates at Cape Eternity, where the rocks rise sheer from the water to a height of eighteen hundred feet. This view dwarfed everything I had ever before seen. There is perhaps nothing this side the Yosemite chasm that equals it, and, emptied of its water, this chasm would far surpass that famous cañon, as the river here is a mile and a quarter deep. The bald eagle nests in the niches in the precipice, secure from any intrusion. Immense blocks of the rock had fallen out, leaving areas of shadow and clinging, overhanging masses that were a terror and fascination to the eye. There was a great fall a few years ago, just as the steamer had passed from under and blown her whistle to wake the echoes. The echo came back, and with it a part of the mountain that astonished more than it delighted the lookers-on. The pilot took us close around the base of the precipice that we might fully inspect it. And here my eyes played me a trick the like of which they had never done before. One of the boys of the steamer brought to the forward deck his hands full of stones, that the curious ones among the passengers might try how easy it was to throw one ashore. "Any girl ought to do it," I said to myself, after a man had tried and had failed to clear half the distance. Seizing a stone, I cast it with vigor and confidence, and as much expected to see it smite the rock as I expected to live. "It is a good while getting there," I mused, as I watched its course. Down, down it went; there, it will ring upon the granite in half a breath; no, down—into the water, a little more than half-way! "Has my arm lost its cunning?" I said, and tried again and again, but with like result. The eye was completely at fault. There was a new standard of size before it to which it failed to adjust itself. The rock is so enormous and towers so above you that you get the impression it is much nearer than it actually is. When the eye is full it says, "Here we are," and the hand is ready to prove the fact; but in this case there is an astonishing discrepancy between what the eye reports and what the hand finds out.

Cape Trinity, the wife of this Colossus, stands across a chasm through which flows a small tributary of the Saguenay, and is a head or two shorter, as becomes a wife, and less rugged and broken in outline.

From Rivière du Loup, where we passed the night and ate our first "Tommy-cods," our thread of travel makes a big loop around New Brunswick to St. John, thence out and down through Maine to Boston,—a thread upon which many delightful excursions and reminiscences might be strung. We traversed the whole of the valley of the Metapedia, and passed the doors of many famous salmon streams and rivers, and heard everywhere the talk they inspire; one could not take a nap in the car for the excitement of the big fish stories he was obliged to overhear.

The Metapedia is a most enticing-looking stream; its waters are as colorless as melted snow; I could easily have seen the salmon in it as we shot along, if they had come out from their hiding-places. It was the first white-water stream we had seen since leaving the Catskills; for all the Canadian streams are black or brown, either from the iron in the soil or from the leechings of the spruce swamps. But in New Brunswick we saw only these clear, silver-shod streams; I imagined they had a different ring or tone also. The Metapedia is deficient in good pools in its lower portions; its limpid waters flowing with a tranquil murmur over its wide, evenly paved bed for miles at a stretch. The salmon pass over these shallows by night and rest in the pools by day. The Restigouche, which it joins, and which is a famous salmon-stream and the father of famous salmon-streams, is of the same complexion and a delight to look upon. There is a noted pool where the two join, and one can sit upon the railroad bridge and count the noble fish in the lucid depths below. The valley here is fertile, and has a cultivated, well-kept look.

We passed the Jacquet, the Belledune, the Nepissisquit, the Miramichi ("happy retreat") in the night, and have only their bird-call names to report.


Stephen Parrish

AMONG THE THOUSAND ISLANDS.

By HOWARD PYLE.

THE terrific combat between Manabozho, the Indian hero, better known as the Hiawatha of Longfellow, and his father, the West Wind, was doubtless suggested to the first narrator of that memorable event by the lakes of northern New York upon the one hand, and those of the St. Lawrence chain upon the other, as marking the cavities from which those Titans might be supposed to have plucked the masses of rock they hurled at each other, the falling fragments of which formed that peculiar geological phenomenon known as the Thousand Islands, scattered through the St. Lawrence for a hundred miles or so of its course.

These islands, about eighteen hundred in number, stretching throughout that broad portion of the upper St. Lawrence extending from Lake Ontario to the Long Sault, are of all sizes and of all kinds; some not more than a yard or so in extent, and some covering many acres; some bare, rocky, and desolate; some thickly covered with a scraggy growth of scrub pines and hemlocks; some shaded with considerable forests of timber trees, and some cultivated here and there, producing such slight sustenance as the inhabitants can wring from an unfruitful soil.

In the old Indian days, this beautiful extent of the river from Clayton to Alexandria Bay, embracing an extent of sixteen miles, widening almost to a lake and crowded with a perfect maze of islands, went by the name of Manatoana, or Garden of the Great Spirit; and, indeed, in the time of Nature's undisputed empire, when the larger islands were covered with thick growths of pine, hemlock, white birch, and maple; when the wild deer swam from woody islet

to woody islet, and each little lily-padded bay, nestling in among the hills and bluffs of the islands, teemed with water-fowl undisturbed by the report of a gun, it was worthy, to the semi-poetical mind of the Indian, to be an abode of Him who created all nature, and who had made this lovely region as an especial dwelling-place for himself. Even so late as fifty years ago, before the great tumult-creating steam-boats had disturbed these solitudes, the islands were the favorite retreat of deer; catamounts wailed in the tangled depths of the night-woods, and each cool nook and corner teemed with wild life.

Now, however, the inexorably rotating kaleidoscope of time has shaken away the savage scenes of old, never to be repeated, and new ones appear to the eye of the present. No longer in Alexan-



MAP OF
Part of the
THOUSAND ISLANDS
-of the-
St. Lawrence River
NEAR ALEXANDRIA BAY N. Y,
Corrected from an old Canada Map of 1815-16
[Names as known in 1874-5]
Rev. Geo. Rockwell

dria Bay—fortunately still beautiful—does Nature reign in silent majesty, for the constant flutter and bustle of the life and gayety of a summer resort have superseded her. But although Alexandria Bay is in this continual tumult of life, for some fortunate and almost unaccountable reason, the Thousand Islands are not in the least tinctured with the *blasé* air of an ordinary watering-place, nor are they likely to become so. There are hundreds—thousands of places, rugged and solitary, among which a boat can glide, while its occupant lies gloriously indolent, doing nothing, but reveling in the realization of life; little bays, almost land-locked, where the resinous odors of hemlock and pine fill the nostrils, and the whispers of nature's unseen life serves but to make the solitude more perceptible. Sometimes the vociferous cawing of crows sounds through the hol-



low woods, or a solitary eagle lifts from his perch on the top of a stark and dead pine and sails majestically across the blue arch of the sky. Such scenes occur in a beautiful sheet of water called the Lake of the Isle, lying placidly and balmily in the lap of the piney hills of Wells Island, reflecting their rugged crests in its glassy surface, dotted here and there by tiny islands.

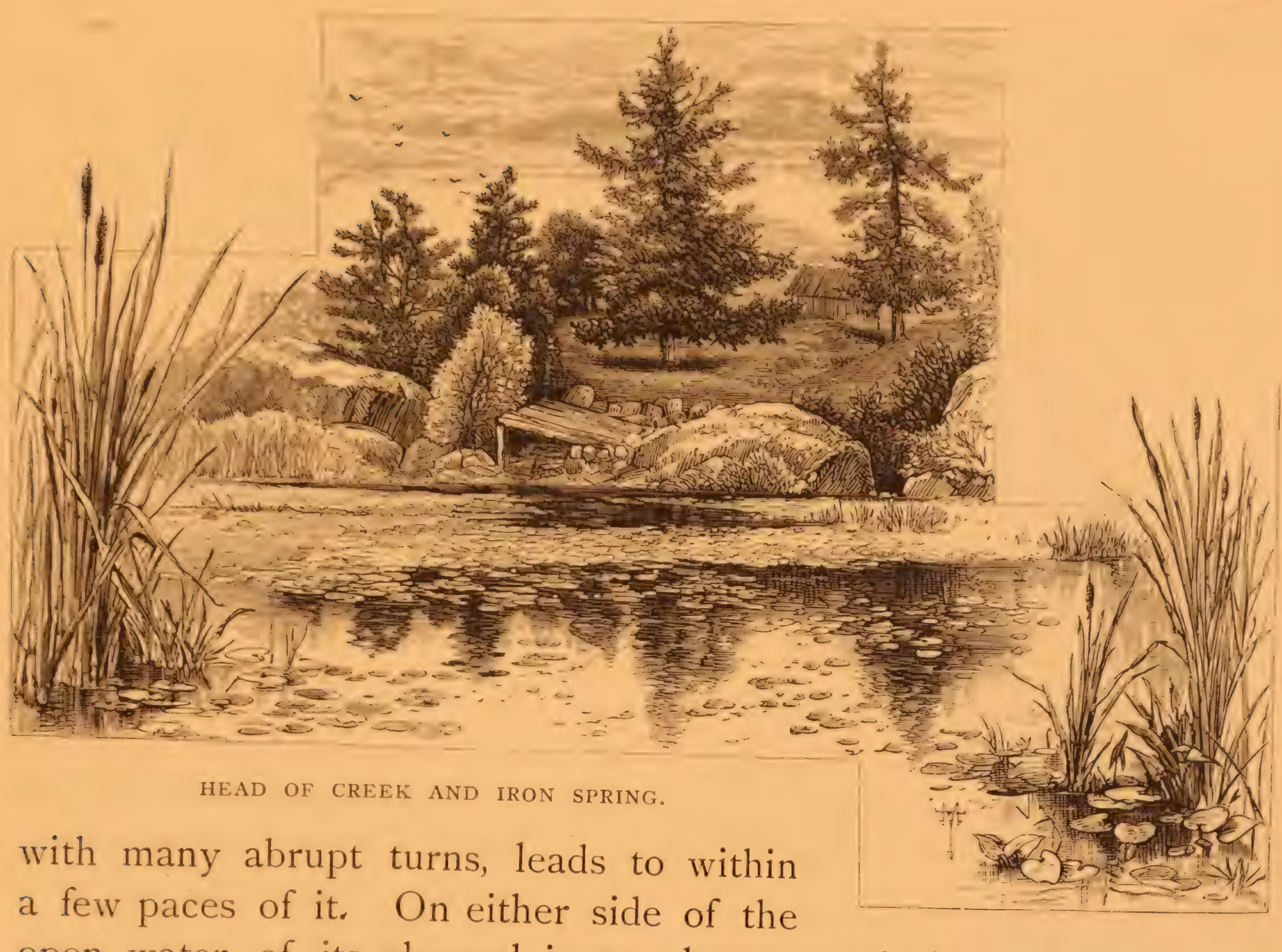
In the stillest bays are spots that seem to lie in a Rip Van Winkle sleep, where one would scarcely be surprised to see an Indian



INLET TO THE LAKE.

canoe shoot from beneath the hemlocks of the shore into the open, freighted with a Natty Bumpo or a Chingachgook, breaking the placid surface of the water into slowly widening ripples. In such a spot, one evening, after a day spent in sketching, when paddling our boat about in an indolent, aimless way, looking down through the crystal clearness of the water to the jungle of weeds below, now frightening a pickerel from his haunt or startling a brood of wood-ducks from among the rushes and arrowheads, we found ourselves belated. As the sun set in a blaze of crimson and gold, two boatmen rowing homeward passed darkly along the glassy surface that caught the blazing light of the sky, and across the water came, in measured rhythm with the dip of their oars, the tune of a quaint, old, half-melancholy Methodist hymn that they sang. We listened as the song trailed after them until they turned into the inlet behind the dusky woods and were lost to view. From such romantic and secluded scenes one can watch the bustle and hurry of life as serenely as though one were the inhabitant of another planet.

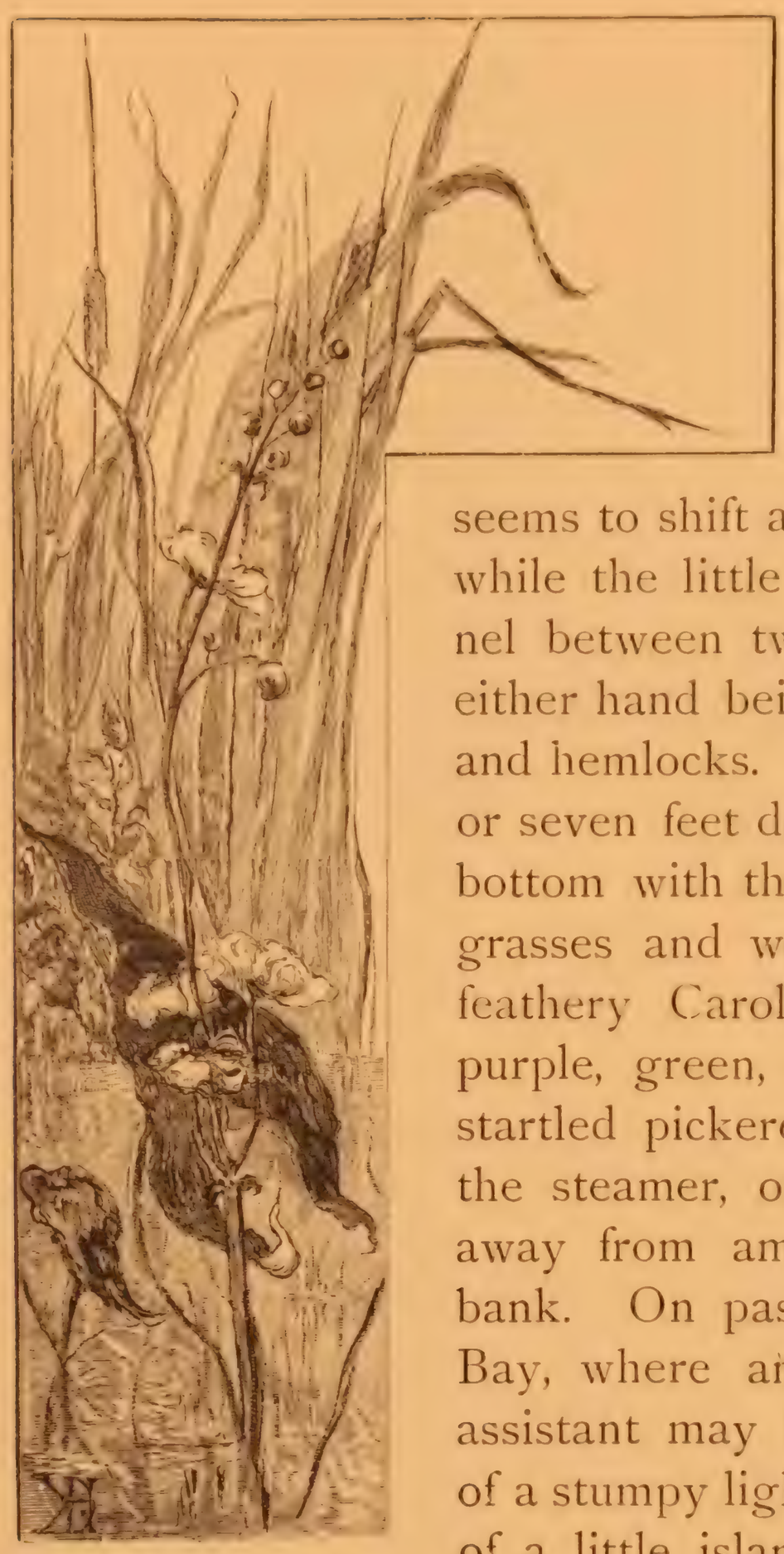
About a quarter of a mile back of the Thousand Island House is a spring of mineral water strongly tinctured with iron, clear as a diamond of the first water and cold as ice. A little creek, a perfect conservatory of aquatic and amphibious plants, winding in and out



HEAD OF CREEK AND IRON SPRING.

with many abrupt turns, leads to within a few paces of it. On either side of the open water of its channel is an almost tropical tangle and profusion of vegetation; water-lilies, white as driven snow, with hearts of gold, reposing on their glossy, cool green pads; yellow-docks, arrowheads with purple clusters of tiny flowers, giant bulrushes, cat-tails and ferns,—all in a bewildering tangle of verdure, at times almost impassable. A rude wooden bridge spans it at one place, so close to the water that the boatman is obliged to bend nearly double in passing under it. Here one may occasionally see a chubby urchin angling in the glassy water for small pickerel or rock bass. The bottom of the creek is matted, and in some places fairly choked, with an exuberance of water-grasses of all descriptions.

Perhaps one of the best and easiest ways of becoming thoroughly acquainted with the various views, some of them extremely beautiful, that the islands present, is by means of a little steam-yacht which runs in daily trips around Wells Island. Starting from Alexandria Bay, she steams up the river among the group of islands lying there, past cottages and camping-tents nestling among the cool green shadows of the trees; past shallow lily-padded bays, at whose edge stands, sentinel-like, an ancient log-cabin or dilapidated barn; past a camp-meeting ground at the upper extremity of



FLOWERS FROM IRON SPRING.

Wells Island, the so-called Thousand Island Park; and finally, taking a sudden turn, she seems to direct her course against an abrupt shore. As she advances, however, a little inlet gradually opens to view; a few rods further and the land seems to shift and change like a dissolving view, while the little craft glides into a narrow channel between two abrupt islands, the banks on either hand being shaded by overhanging pines and hemlocks. The channel, not more than six or seven feet deep, is thickly covered along the bottom with the usual tangle of waving water-grasses and weeds, long ribbons of eel-grass, feathery Carolina weed, and other varieties, purple, green, and brown. Now and then a startled pickerel darts from under the bows of the steamer, or a solitary heron flops heavily away from among the water-lilies along the bank. On past a shallow sheet of water, Eel Bay, where an occasional fisherman with his assistant may be seen; past the white towers of a stumpy light-house, perched upon the corner of a little island and defined against the dark green of the pines at its back; on, at last, into the Canadian channel. Here a bewildering maze of beautiful islands, north, south, east, and west, rises upon every hand. At times, the channel seems a lake surrounded by an amphitheater of thickly wooded hills and bluffs, with no outlet but that through which the boat has just entered; proceeding onward, it dissolves into a long channel, contracts into an abrupt inlet, or widens to an open bay. Further on is that sudden variation in the course of the channel known to all St. Lawrence voyagers and boatmen as the "Fiddler's Elbow." As the boat enters this portion of the channel, it seems to be directed by the helmsman point blank into an island. At the very moment, however, when a few rods of further progress in that

direction would dash the boat against the rocks, she makes a sudden deviation to the left, another to the right, and lo! the Canadian channel lies before her a good mile and three-quarters broad, and Grenadier Light-house lifts in the far distance. After passing a number of curious Canadian lumber stations, perched high on the steep bank, the boat rounds the lower end of Wells Island, directs her course among the little isles on the American side, and finally stops at Alexandria Bay.

The islands in the Canadian channel of this part of the river are chiefly in possession of the Government of the Dominion. Among them are some of the most interesting of the whole group. Old Bluff raises his rugged front from a hundred feet of water to eighty feet of bare, perpendicular rock, his forehead closely matted with a thick growth of scrub pines. Through the center of the island runs a valley, almost a gorge, in which stands an uninhabited frame shanty for the accommodation of visitors. It is a rough, unfinished structure of the coarsest deal, but it looks picturesque and romantic enough, shaded and almost hidden as it is by maples and white birch. From the top of the high bluff, fronting down the river, a magnificent view is obtained of the islands lying beneath, both in the American and Canadian channels. Here the artist sat perched upon the sheer edge of the bluff, sketching diligently, in full view of the natives for a mile around, and vastly to their astonishment.

"Hulloa, Cap!" came faintly up from below. He looked down; a cockle-shell of a melon-boat was tossing on the waves below.

"Be ye needin' a watermillin?"

He thought not, unless the anxious fruit-vender would carry it up the hill at the rear of the bluff. While engaged in this colloquy, the artist's sketch-book slipped from his hand and landed after many gyrations about half-way down the face of the cliff. Two of the party were obliged to go below in a boat, one of them climbing the rocks to secure the lost book, while a third remained above to direct their movements.

One of the most curious of the American islands stands a short distance above Alexandria Bay,—a cubical block of granite having almost the appearance of being carved by human hands, rejoicing in the not very savory name of The Devil's Oven, its summit giving

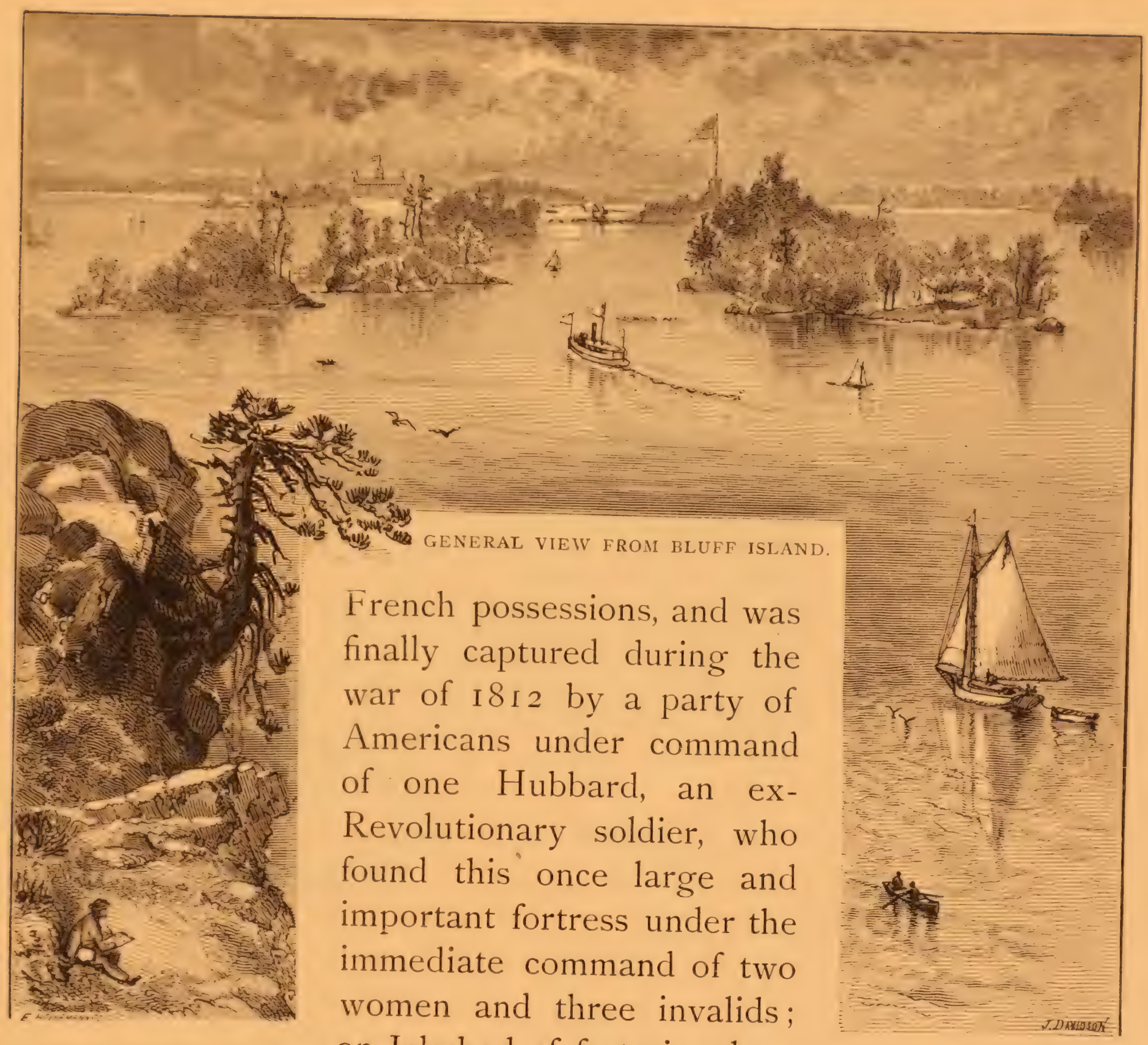


THE DEVIL'S OVEN.

sustenance to a few gaunt cedars, and its sides perforated by an almost circular opening which at a distance does bear some resemblance to a gigantic baker's oven.

The upper extremity of Carleton's Island, some twenty-eight miles above Alexandria Bay, narrows into a contracted promontory of land ending in an abrupt bluff fifty or sixty feet high. Here, perched aloft, perceptible to all passers-by along the river, and distinctly visible for miles around, stand a number of toppling and half-ruined chimneys. Like so many sentinels standing solemn-faced, waiting for the blessed time of rest that will relieve them from duty, they watch over the ruins of an old French fort, so old that its history has been lost in the mists of the past. Attracted by that romantic glamour that hangs in the very air of the antiquated and dilapidated ruin, we were induced to pay it a visit, to the mild wonder of the natives, who seemed to look upon the artist as a species of harmless lunatic. So interested were we with the time-worn remains that a brief visit developed into a three days' stay.

The early history of the place is almost entirely lost, insomuch that it is supposed by some to be the ruin of old Fort Frontenac. It was, so far as existing data go to prove, commanded by the French about the year 1760; then fell into the hands of the English with the



GENERAL VIEW FROM BLUFF ISLAND.

French possessions, and was finally captured during the war of 1812 by a party of Americans under command of one Hubbard, an ex-Revolutionary soldier, who found this once large and important fortress under the immediate command of two women and three invalids; an Ichabod of forts, its glory had departed. The women and invalids were valorously attacked, and after a slight resistance they capitulated; the poor old fort, as if to accelerate its already progressing ruin, was fired, and the Americans with their prisoners retired to the main-land, where they were received with salutes, cheers, and the music of the Cape Vincent band,—one fife and a drum.

Since that day the fort has never been rebuilt, but has been allowed gradually to crumble away into ruin, producing, as fruit of its semi-mythical history, a rich crop of romantic stories and legends. An antiquated well, dug through the solid Trenton limestone to the level of the lake, has been converted by the vivid imaginations of the natives into a receptacle of the doubloons which the French upon evacuating the fort are said to have thrown therein, with the brass cannons on top of them; though why they threw their doubloons



RUINS OF THE OLD FORT,
CARLETON'S ISLAND.

into the well instead of carrying them away, has, I believe, never been satisfactorily explained.

Upon either side, and immediately in front of the bluff upon which the old fort stands, is a pretty little bay, which once doubtless afforded pleasant and easy anchorage for the vessels that lay under its protecting guns. An innocent lumber craft, sunk many years ago in this harbor, has been, through the medium of the romantic atmosphere that hangs about the place, converted into an audacious smuggler that, blown ashore here, sank with a fabulous amount of moneys, silks, laces, and Canadian brandies hidden beneath the lumber.

Without dóubt, the place was once of considerable importance. The fortress has been built in the most elaborate manner after the system of Vauban, and exhibits a skill of the very highest order in the art of constructing defenses. The fortifications in the rear are semicircular in form; the trench, four feet deep and twenty broad, is cut through the solid Trenton limestone; the glacis, which is approached by a gradual elevation, being constructed of the same material to the height of four feet. Directly on the river-front it is

naturally impregnable, and at the precipitous side was probably defended merely by a stockade.

Numbers of graves lie in a flat field immediately back of the fort, many of which have been excavated by relic-seekers in search of French buttons or shoe and knee buckles. A number of ghost-like rose-bushes standing starkly here and there, long since past the lusty age of flower-bearing, probably marked out paths through this cemetery in the wilderness. Back in the island, in a copse, are the remains of an Indian burying-ground, where numbers of stone arrow-heads, tomahawks, etc., have been picked up at different times; and to the right of the fortress, immediately upon the bluff overlooking the Canadian Channel, are still older graves, where, it is said, as the bluff slowly wears away, an occasional grinning skull or grisly bone is exposed to the long excluded light of heaven.

In this vicinity, numbers of excellent old-fashioned wrought nails are constantly being plowed up or otherwise collected, some buildings being almost completely joined with them.

While here, we had an excellent opportunity of gaining a practical knowledge of the daily life of the island farmers, being obliged to lodge for a time at a little farm-house that nestled beneath the brow of the old fortification, like a swallow's nest in a cannon's mouth.

The proprietor did not seem overzealous to accommodate us; for what sane man, of his own free choice, would sit day after day in the broiling sun sketching the old chimneys? The bill of fare of our supper with the farm hands consisted of stewed potatoes, bread and butter, and pie, with the addition of scalding tea. The tea was perhaps rather lacking in the titillating taste of the herb itself, but any weakness in that direction was fully compensated for by the thickness of the bread and the solidity of the pie. After this repast, we were solemnly shown to our apartment immediately above the kitchen, dining and reception room, and in consequence intensely hot on this midsummer's night. Our sleeping chamber was evidently the room of state, hung with wonderful wall-paper, the floor pierced by the arm of a stove-pipe from the room below. Here stood the wash-stand, without the usual accompaniments of ewer, basin, and looking-glass; and our couches,—one a trundle-bed, and the other a gigantic four-poster of antiquated date. The stove-pipe



RIVER CRAFT.

served as an excellent telephone whereby to hear our landlady in the room beneath discussing with a crony the proper amount of board to charge her guests. "Well," said the crony, "I've a feller a-stayen with me; I'm a-goin' to charge him two dollars a week, and"—in a determined tone—"I'm a-goin' to git it, too!" Modern luxuries should always be paid for at whatever price.

On some of the islands and along the main-land one sometimes comes upon an antiquated group of Lombardy poplars, almost invariably standing in the vicinity of some equally antiquated log-cabin or farm-house. The poplar is the ancient sign of hospitality, and in the old country was generally planted near an inn or hostelry. These trees doubtless were brought to this country by the old voyagers, and served as a landmark by which many a traveler or sailor on the St. Lawrence, making the long journey from Montreal to Toronto,

hailed the vicinity of Christian help and assistance indicated by these darkly colored trees.

Behind Lower Grenadier Island, and three or four miles from Alexandria Bay, upon the Canadian main-land, are a number of excavations with remains of chimneys which we were puzzled for a long time to account for. They were certainly under-ground dwellings, but what was their use we could not satisfactorily explain. At length, we met a fisherman who told us he recollected hearing from his grandmother that in the "English war" British troops were quartered there during the winter. Whether the English war was that of 1812 or the Revolution, we could not discover; probably the war of older date may be referred to, as in many instances trees of considerable size have grown up in the midst of the excavations.

Of late years, perhaps, no event caused such a stir of excitement in this region as the so-called Patriot war in 1838,—a revolt of certain Canadians dissatisfied with the government of Sir Francis Bond Head, then governor-general of Canada,— which was joined by a number of American agitators ever ripe for any disturbance. The first center of operations of these so-called patriots was Navy Island, in the middle of the Niagara River, where they congregated, employing the little steam-vessel *Caroline* in carrying arms and munitions of war to that point. At length the steamer was captured by some Canadians, fired, and run over the falls of Niagara. Considerable indignation was excited in the United States by this destruction of the property of American citizens, particularly along the border, where indignation meetings were held, and secret societies called "Hunter's Lodges" were formed, with pass-words, secret signals, and all due attendant mysteries, the express purpose of which was revenge upon the Canadian Government. The agitators were deceived by these signs into imagining that events were now ripe for a general border war, in which they hoped to free Canada from the rule of Great Britain.

It was a wild, insane affair altogether, and after some time consumed in petty threats of attack, finally reached a climax in the burning of the Canadian steamer *Sir Robert Peel*,— one of the finest vessels upon the St. Lawrence. The most prominent actor in this affair was Bill Johnston,—a name familiar to every one around this region,—whose career forms a series of romantic adventures,

deeds, and escapes,—followed by his final capture,—which would fill a novel. Indeed, we understand that a novel has been written by a Canadian Frenchman on this theme, though we have not had the good fortune to find any one who has read it. The burning of the steamer *Peel*, which occurred on the 29th of May, 1838, remains, however, an act of inexcusable and stupid incendiarism, answering no conceivable good purpose.

For some time there had been mutterings among certain of the societies, and for a few days previous to the occurrence something mysterious was felt to be in progress. The night of the 29th was dark and rainy. About eleven o'clock, the *Peel*, then on her way from Prescott to Toronto, stopped at McDonald's Wharf, on the south side of Wellesley—now Wells—Island, for the purpose of replenishing her almost exhausted stock of wood. The passengers were all asleep in the cabin, and the crew busily engaged in their occupation, when a body of men, twenty in number, disguised as Indians and with blackened faces, yelling tumultuously and shouting, "Remember the *Caroline!*" ran quickly down the bank, armed with muskets and bayonets, led by a tall, strongly built man, in a red shirt—Bill Johnston himself. In a moment they overpowered the unsuspecting crew, while on board all was tumult and terror. Some of the ladies fainted, and several of the passengers fled to the shore through the rain, clad only in their night-clothes. A short opportunity was allowed for the passengers and crew to carry their baggage to the shore, but by far the greater part was lost when the vessel was subsequently burned.

Toward morning, the *Peel* was drawn off from the wharf, and after being run upon a point of shoal about thirty yards below, was set on fire and abandoned. For some time the flames blazed aloft, illuminating the shores for miles around; but about dawn in the morning she once more got adrift, and finally sank in about seventy feet of water. It was nominally the intention of the captors of the steamer to convert her into a gun-boat and use her against the Canadian Government; but upon finding that she was firmly aground and resisted all their efforts to get her free, they fired her to prevent her recapture. By some it is asserted that the vessel was deliberately robbed and then burned to prevent detection and throw an air of patriotism over the crime of the perpetrators.



DOCK WHERE THE STEAMER "PEEL" WAS BURNED.

Johnston was originally a British subject, but turned renegade, serving as a spy in the war of 1812, in which capacity he is said to have robbed the mails to gain intelligence. He hated his native country with all the bitterness which a renegade alone is capable of feeling. He was one of the earliest agitators upon the American side of the border, and was the one who instigated the destruction of the *Peel*. A reward was offered by the government of each country for his apprehension,—so he was compelled to take to the islands for safety. Here he continued for several months, though with numbers of hair-breadth escapes, in which he was assisted by his daughter, who seems to have been a noble girl, and who is still living at Clayton. Many stories are told of remarkable acts performed by him,—of his choking up the inlet of the Lake of the Isle with rocks, so as to prevent vessels of any size entering that sheet of water; of his having a skiff in which he could outspeed any ordinary sailing craft, and which he carried bodily across necks of land when his enemies were in pursuit of him, and of his hiding in all manner of out-of-the-way spots, once especially in the Devil's Oven, previously described, to which his daughter, who alone was in his confidence, disguised as a boy, carried provisions. He was finally captured and sent to Albany, where, after suffering a slight penalty

for his offense, he was subsequently released, although he was always very careful to keep out of the clutch of the indignant Canadians. His son, John Johnston, still resides at Clayton, and from him, after some pressure, a part of this information as to his father's adventures was extracted.

There is a certain breath of life about the northern United States and the neighboring region of Canada suggestive even in mid-summer of hard winters,—of long months when the face of the St. Lawrence is as adamant; of snow lying four feet deep all winter without intermission; an indescribable reminder of that season when a huge wood fire roars in the capacious fire-place, and when the bellowing wind dashes hissing snow wreaths in among the tossing and writhing pines and hemlocks. There is a rugged look about the landscape, as though Nature, not daring to expend her strength in the labor of growing,—save in little secret nooks here and there,—merely rested to gain fresh strength for her yearly tussle with grim winter. The inhabitants—generally fishermen—are an honest, rough, weather-beaten set, truthful,—with the exception of legends of buried treasure, or perchance wonderful stories of an eighty-pound muskallonge or two,—kind-hearted and hospitable. The fisherman is quaint in dialect, curious in manners, with the invariable story of the huge fish which he almost caught—and didn't. "Be ye a-goin' to skitch to-day?" inquires he, patronizingly, as he leans over the rail of the slip and looks down into the boat, where the artist is making some preparations. "Ye hadn't oughter lose so much time from fishin'." Or, "Where be ye ter dinner (take luncheon) to-day?" An island where it is customary to take picnic dinners is usually denominated a "dinnerin'-place."

Sometimes, rowing home at night, one passes by the blazing fire of a camping party, twinkling in the gloom of some thickly wooded islet. Around the fire move the dark forms of the boatmen or cook, preparing the evening meal. To one side, the campers themselves lie stretched at ease, smoking, or talking over the day's sport.

One of the great features of enjoyment to the casual visitor to the Thousand Islands consists in occasional picnic dinners—not the ordinary picnic dinner, where a table-cloth is spread upon the ground, and cold meats and sundries upon the table-cloth; where



CAMPING OUT.

long-legged spiders or centipedes career across the viands or drop into one's cup of lukewarm coffee; but dinners as luxurious in their bill of fare as any of the hotels can afford, combined with all the unfettered gayety incident to such an *al fresco* meal. A day's fishing is nominally the backbone of the expedition, around which the day's pleasure is actually built. We will suppose that the party of a dozen ladies and gentlemen is formed, and the day planned for the expedition arrived,—a clear, sunny one, with not a ripple stirring the glassy surface of the stream. Six boats are hired, a gentleman and lady going in each, under the superintendence of a fisherman, which fisherman, if he should happen to be George Campbell, one of the Patterson Brothers, McCue, or some such competent hand, may afford his lucky party a day's sport that of itself would fully satisfy the expectations of most people. Perhaps, if the fishing-ground be distant, a steam yacht is engaged, the boats, stretching in a long line, are taken in tow, and off the jolly party starts, with flags flying merrily.



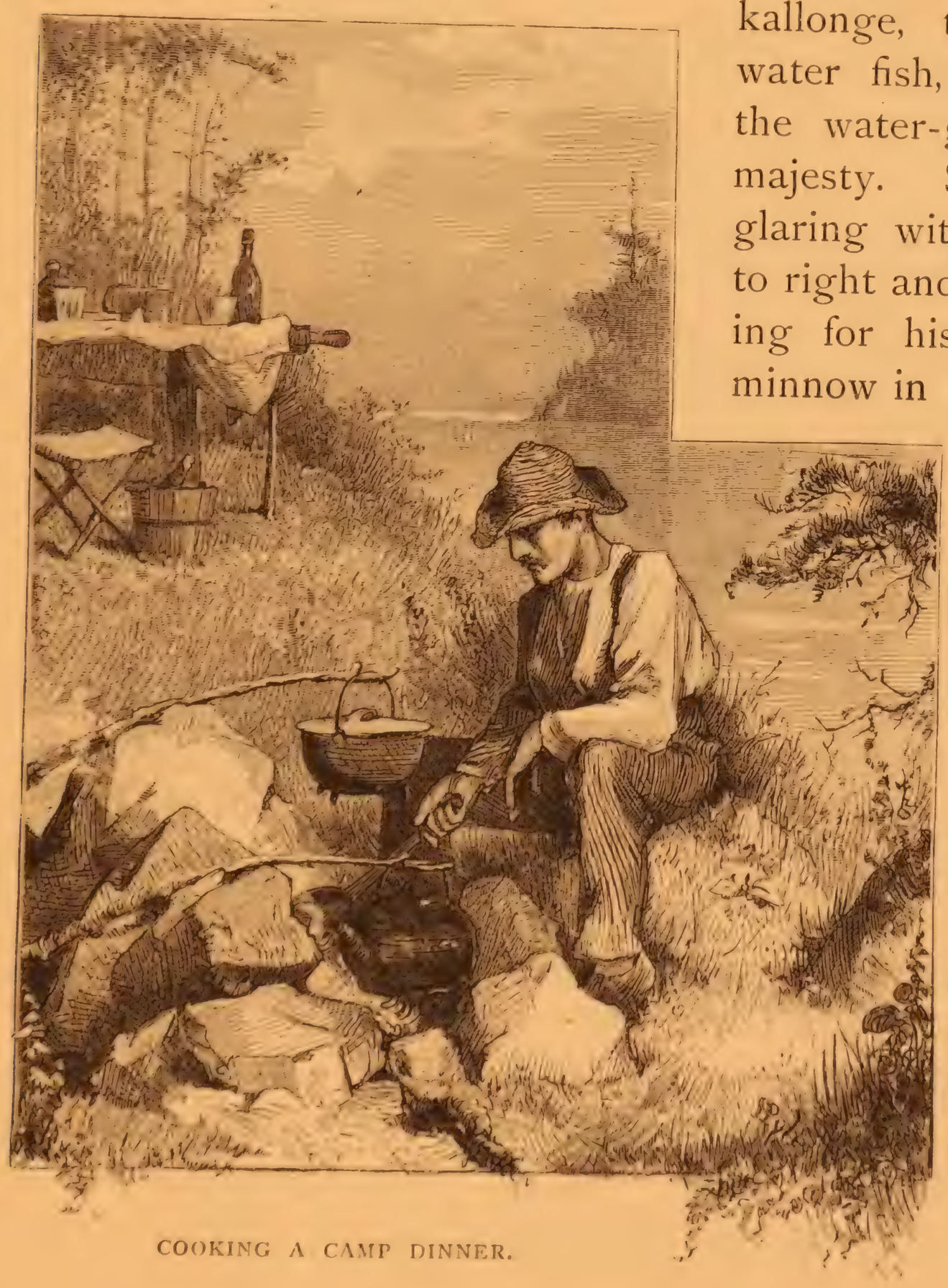
A FISHING PARTY.

At length, the desired spot is reached and the sport begins, each party fishing as if their lives depended upon it, and all internally praying that, if a monster pickerel or muskallonge is caught,—of which there may be about one chance in five hundred,—they may be the particular ones selected by Fortune as the catchers thereof. But whether such a capture is made or not, the fishing is sure to be fine, and so exciting that the dinner hour approaches without notice until, warned by the shrill whistle of the little steam-yacht, the boats wend their way from all quarters to the "dinnerin'-place."

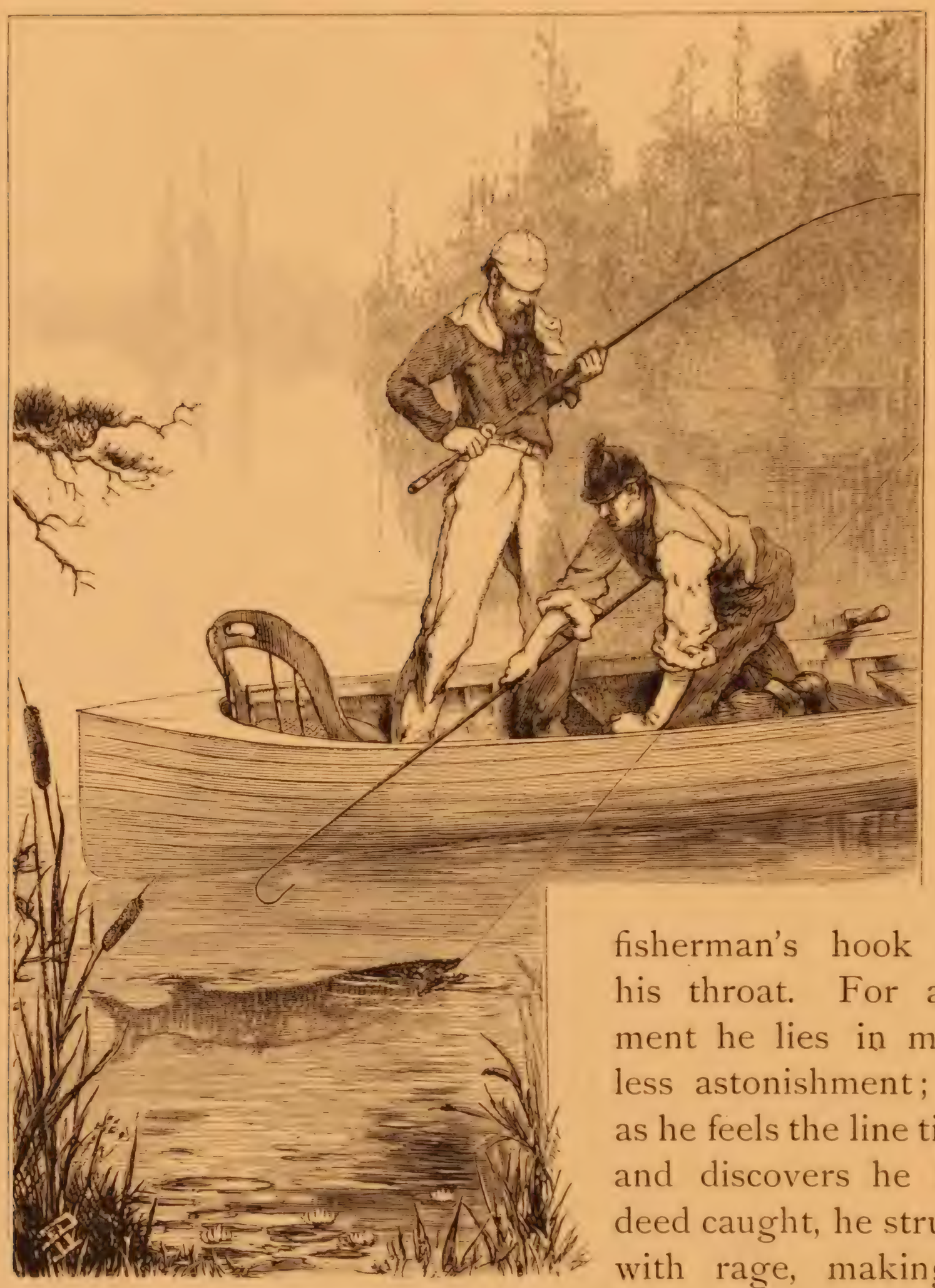
The luncheon, mind you, is not made up according to the simple bill of fare presented at the desk of the hotel, composed of mere necessaries, such as eggs, bread and butter, coffee, and fat pork; but, under the supervision of Isaac, the overseer of the luncheon-room at the Thousand Island House, it crops out in various "extras" and "sundries," in the shape of a tender chicken or two, juicy steak and chops, green corn, tomatoes, and the like. The fishermen—excellent cooks, deft and cleanly—perform the task of preparing the meal with wonderful dispatch, and in a short time a royal repast is laid before the hungry anglers, whose appetites, whetted by healthful exercise and invigorating air, do ample justice to the feast. After dinner, while the fishermen are packing away the dishes and other

et ceteras, the ladies retire for a short nap and the gentlemen for a social cigar; then, as evening approaches, back to the hotel, there to doff the flannel shirts and fishing-dresses, and once more to assume society clothes and manners.

Many, however, prefer solitary sport, or with a company of two or three gentlemen only; and by starting in the early morning, long trips can be made, far down below Grenadier Island. There, in the more shallow portions of the river, striped with long beds of water-grasses, green and purple, undisturbed by the turmoil and commotion of passing steam-boats, the indolent pickerel lies tranquilly in the secluded tangle of his own especial retreat; or huge black bass, reaching sometimes to the weight of five or six pounds, stand guard along the edge of the grass, waiting for some unwary minnow or perch to pass. At rare intervals are spots where the savage muskallonge, the tiger of fresh-water fish, lies hidden among the water-grasses in solitary majesty. Sluggishly he lies, glaring with his savage eyes to right and left of him, watching for his prey. He sees a minnow in the distance, apparently twitching and wriggling in a very eccentric course; a moment the monarch poises himself, with waving fins, then, a sudden sweep of his majestic tail, and he darts like a thunder-bolt upon his intended victim. The next moment the sharp agony of the



COOKING A CAMP DINNER.



CATCHING A MUSKALLONGE.

fisherman's hook is in his throat. For a moment he lies in motionless astonishment; then, as he feels the line tighten and discovers he is indeed caught, he struggles with rage, making the water eddy and swirl with the sweeps of his powerful tail, and causing the rod to bend almost double. This way and that he darts, mad with rage and pain, while the line hisses as it spins from the reel; but in vain; in spite of all his endeavors, he feels the tightening line drawing him nearer and nearer to the surface. Again and again he is brought to the side of the boat only to dart away once more, until at last, sullen, exhausted, and conquered, he lies motionless in the water beside the victorious fisherman's skiff. A moment more and the gaff strikes his side and he is landed safely in the bottom of the boat.



SPEARING EELS IN EEL BAY.

"Hurrah! a twenty-pounder!"

In the early spring, when the shallows of Eel Bay or other sheets of water of the same kind become free from ice, the water, not being deep, becomes warm much more quickly than elsewhere, and here the half-frozen fish congregate in great quantities. The professional fisherman in the bow of the boat holds a spear, in shape like a trident, but with an alternate sharp iron prong between each barbed shaft, the whole fixed upon a long, firm handle. Immediately upon seeing a fish, he darts this gig at him, fixing the barb so effectually in his victim that to strike is to capture him. The weapon used is called a jaw-spear, from its peculiar form, being a jaw-shaped piece of wood, with a sharp iron barb firmly fixed in the angle, against which the eels are forced and pinned fast until they are safely landed in the boat. Eel-spearing is generally pur-

sued at night, not only because the water is usually more quiet then than during the day-time, but also because the light of the blazing pine chunks in the "jack" or open brazier fixed in the bow of the skiff makes objects on the bottom more apparent by contrast with the surrounding gloom.

It is a picturesque sight to see the swarthy forms of the fishermen, lit up in the circumscribed circle of light, looking like phantoms or demons—the one in the bow bending eagerly forward, holding the spear and watching the bottom keenly for his victim; the one in the stern silently paddling the boat across the motionless water, not a sound breaking the stillness of night but the tremulous "Ho-o-o-o" of the screech-owl or the crackling of pine chunks in the jack. Suddenly the figure in the prow poises himself for a moment, drives his spear forward through the water with a splash, then draws it back with the wriggling victim gleaming in the blazing light of the pine.

In June there is fly-fishing, and fine sport it is to cast a fly so adroitly as to tempt a plump bass in the seclusion of his rocky retreat beneath the overhanging birches along the bank, and fine sport to land him, too; for the bass, lusty and strong through good living and pure water, will battle with the sportsman as vigorously as ever did dappled trout, struck in the pools of Maine.

Toward summer, the fish become more sluggish and refuse to strike at a fly, and then "still fishing," with live minnows for bait, or the less skillful sport of "trolling" take the place of fly-fishing. Of trolling, little is to be said. The lines are merely trolled from the stern of the boat; and if the fish bites, unless it be an extraordinary large one, nothing is required but to haul him in, hand over hand, and land him finally, without any skillful handling, in the bottom of the boat.

With still fishing, however, more skill is required. As a sport it occupies the intermediate point between trolling and fly-fishing, and, should very light rods be used, a great deal of sport may be obtained in playing and landing the fish. Nearly all the boatmen, upon the least encouragement, will recount stupendous stories of eighty-pound muskallonge, forty-pound pickerel, or eight-pound bass. The largest fish that I could find reliable record of as having been caught and landed were a muskallonge fifty-one pounds, a pickerel twenty-seven, and a black bass six and a quarter.

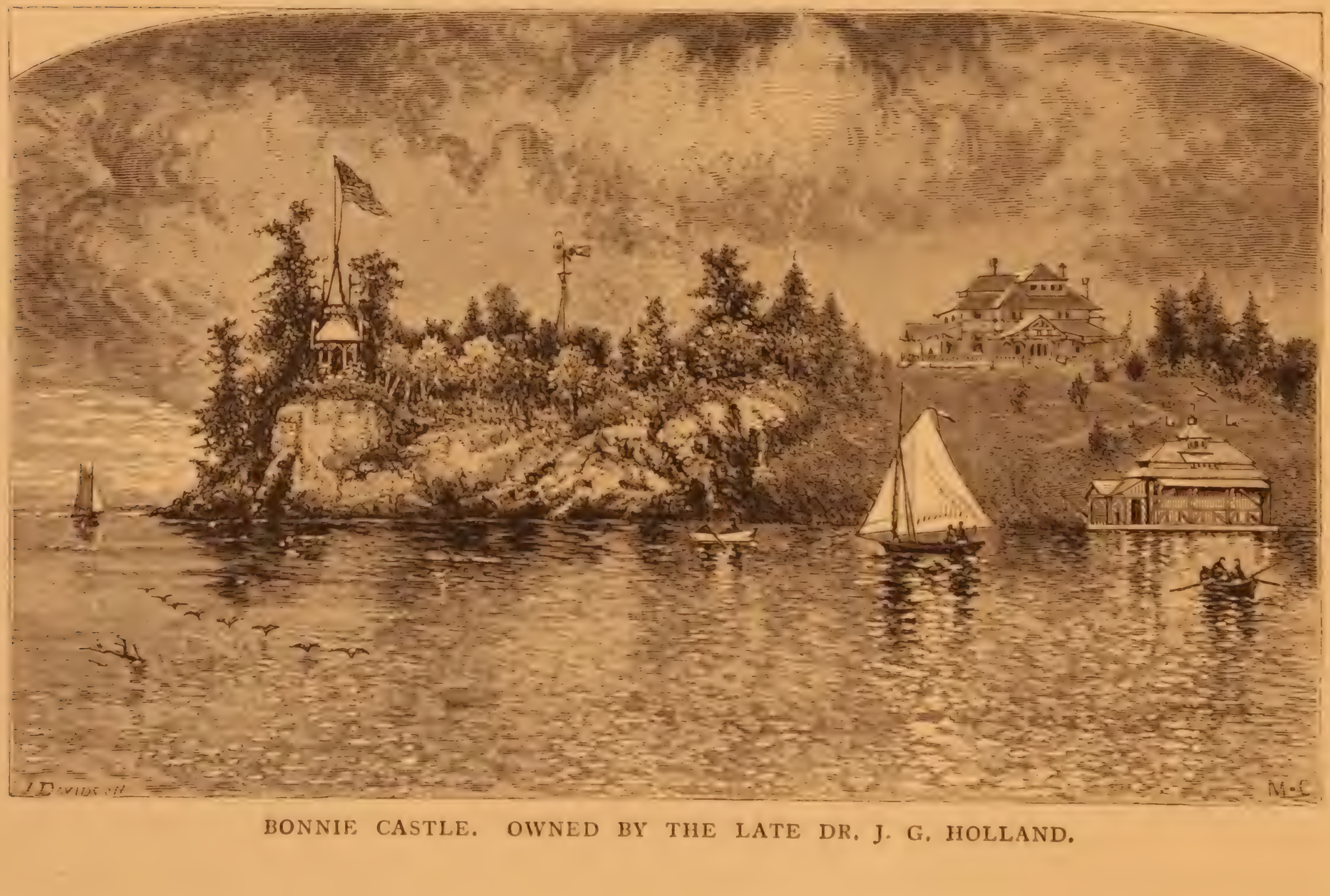
Numbers of ducks of different varieties frequent the bays and inlets of the Thousand Islands in the spring and autumn, and quantities of ruffed grouse are found upon the main-land, so that the shooting is said to be excellent in its season. While we were there, two or three deer were said to have come from the main-land to Wells Island, where they were diligently hunted, but, so far as we heard, without success.

The most interesting part of the development of this region as a watering-place is that which relates to the settlement of the islands by private residents. The islands have not been held at too high a price, and a multitude of men have bought them and built houses upon them for summer use. Some of these are little more than shelters or "shooting-boxes"; some are comfortable houses; and several are expensive and very splendid and showy places, so that a passenger on a river steamer, making his first trip down the stream, will find much of picturesque interest in glimpses of the architecture which greet him on every hand. There is no chance for fighting over boundary lines, and some of the lots with a liquid fence are so small that their owners can throw a fly from their front door-step to the bass they can plainly see in the clear water which is never disturbed by a freshet.

There are summer hotels at Clayton and other points along the shore, but Alexandria Bay is the grand center of the summer life. Of course, the Lake Ontario and St. Lawrence boats from all parts touch here, and there is a daily line between Ogdensburg and Alexandria Bay. Here are the great hotels, and here is the multitude. The village contains about five hundred people, with two churches—a Methodist and a Dutch Reformed Presbyterian. The latter is a mission church, and was founded by the late Rev. Dr. Bethune, who was a famous fisherman in his day, and who, in his summer recreations on the river, did not forget to fish for men. The Methodists have established the "Thousand Island Park," several miles above, where they come in great numbers every year for recreation and a camp-meeting. They have a fine dock and quite a number of private residences. Westminster Park is a new enterprise. An association has purchased five or six hundred acres of Wells Island, nearly opposite to the village of Alexandria Bay, and the enterprise is now in the full tide of development. Fourteen miles of road have

been laid out, five of which are already graded. A dock has been built more than a thousand feet long; and hundreds of building lots have been thrown into the market. Under the influence of this great influx of visitors, the fishing is quite likely to suffer; but the pure water and the pure air that sweep down the mighty channel are enough for the drinking and the breathing of a continent.

Pleasant are the recollections of the place of which some aspects are recorded here; pleasant for all reasons; pleasant as a center of watering-place life; pleasant for hours of fishing under the skillful guidance of George Campbell; and doubly pleasant, delightful, for hours of silent, solitary communion with Nature in tranquil bays and spicy cedar woods,—communion sometimes as uninterrupted as though we belonged to a different sphere from this earthly one of hurry and bustle; a place of legend and romance, of old associations—an unfailing fountain of interest both in itself and its inhabitants.



BONNIE CASTLE. OWNED BY THE LATE DR. J. G. HOLLAND.

THE SPLIT BAMBOO ROD.*

ITS HISTORY, ETC.

THE "split bamboo"—"rent and glued bamboo"—rod has been generally supposed to be an American invention. The first split bamboo rod I ever saw or heard of was made by Wm. Blacker, 54 Dean street, Soho, London, and to order, for James Stevens, an old and well-known angler, of Hoboken, N. J. This was in 1852, and it was given to me for repairs and alterations in that year. I am certain of the date, as I made a rod for Mr. Stevens on his visit to the London Exhibition in 1851. I have the records of both dates, taken at the time, so that no mistake can be made. The rod is still in the possession of the family of Mr. Stevens.

The first attempt to give the history of the split bamboo rod in this country, that I have been able to find, is as follows: A. G. Wilkinson, Esq., of Washington, D. C., in an article in "Scribner's Magazine" (now "The Century") for October, 1876, on "Salmon Fishing," page 774, says:

> "I have taken not a little pains to get as far as possible a correct history of this somewhat remarkable invention."

Mr. Wilkinson gives the year 1866 as the one in which Mr. Phillippi, a gunmaker of Easton, Pa., made a glued-up split bamboo rod in three sections, or part of one. He was followed by Mr. Green and Mr. Murphy.

* Through the courtesy of the editor of "The American Angler," we are permitted to republish the following articles giving the history of the split bamboo rod.

Dr. Henshall, in his "Book of the Black Bass," pp. 201–203, under the caption of "Origin of the Split Bamboo Rod," says:

> "For though purely an American invention as now constructed, the idea or principle is really of English origin."

The Doctor then gives the date of the first split bamboo rod made in this country, by Samuel Phillippi, as about 1848; but all dates are from memory, and I believe the date given by Mr. Wilkinson is the nearer approach to the correct one. Mr. Phillippi never made a *complete* rod of split bamboo, only a tip and joint to a three-pieced rod, the butt of ash, and the joint and tip made in three sections. Mr. Phillippi died about 1878.

Mr. Murphy, of Newark, N. J., in an article by Mr. B. Phillips, on the origin of the split bamboo, published in the New York "Times," gives the date as 1848 when Mr. Phillippi used the natural bamboo, and subsequently made a joint of bamboo.

The next date given is about 1860, when Mr. E. A. Green, of Newark, N. J., made the first *complete* split bamboo rod. This date cannot be far astray, for Mr. Green made (that is, glued up) for the trade a few; and I find my record, made at the time, to be Sept. 16, 1863. These rods were made in four sections. Mr. Thaddeus Norris, of Philadelphia, is mentioned in connection with the invention, but he never claimed it. In 1863 or 1864, Mr. Murphy, an acquaintance of Mr. Green, commenced to manufacture split bamboo rods for the trade; these were in four sections.

The first rods constructed in *six* sections that were put into the market were made by Mr. H. L. Leonard, of Bangor, Me. This was about 1870, and Dr. A. H. Fowler soon followed; Mr. Murphy, however, claims to have made one some time before.

The first split bamboo rod that I made myself was in June, 1869. It was put together in four sections; made not of Calcutta bamboo, but of Chinese, which is much harder, more homogeneous, and more difficult to obtain than the former.

I have thus traced the record of the split bamboo rod on this side of the "herring pond," and now will look into its history on the other side.

Thomas Aldred, of London, claims, and I have never seen it disputed, to be the inventor of the three-section glued-up bamboo

rod. The date under which Mr. Aldred claims, I have never been able to find. It was, however, previous to the Crystal Palace Exhibition in 1851. There were three exhibitors in the Exhibition at the Crystal Palace at London in 1851, viz.: Ainge & Aldred, J. Bernard, and J. K. Farlow. The rods exhibited were all of three longitudinal sections, the whole length of the cane, and not in sections between the knots and glued. Ainge & Aldred also exhibited the same rod at the Exhibition in 1853 at New York.

The first record I have been able to find of the construction of the split bamboo rod is in Ephemera's (Edward Fitzgibbon) "Handbook of Angling," second edition, page 255, London, 1848, where he recommends a tip for a salmon rod to be made of bamboo cane rent longitudinally into three wedge-shaped pieces, then glued together and reduced to the proper tapering thickness, ringed and whipped with unusual care and neatness. He adds: "I have changed my opinion with respect to rods made entirely of rent cane or any other wood rent. Their defects will always more than counterbalance their merits."

I have not been able to see a copy of the first edition of Ephemera's book, which was published in 1844, in which he had evidently recommended the rent and glued rod, the book not being in the Lenox or Astor library or in any private library that I know of.

I now quote from Blacker's "Fly Making and Angling," London, 1855, page 82:

> "The rent and glued-up bamboo cane rods, which I turn out to the greatest perfection, are very valuable, as they are very light and powerful, and throw the line with great facility."

The first edition of this book, published in 1842, I have also not been able to consult. The author was a practical rod-maker, and made the split bamboo rod I refer to in the beginning of this article.

In 1856 there was published in London an edition of Walton's "Complete Angler," edited by Edward Jesse, with notes and papers on fishing-tackle by the publisher, Henry G. Bohn. On page 325, in the article on rods, he says:

> "The split or glued-up rod is difficult to make well, and very expensive. It is made of three pieces of split cane, which some say should have the bark inside, some outside, nicely rounded."

In January, 1857, the third edition of "The Practical Angler," by W. C. Stewart, was published in Edinburgh. On page 33, Mr. Stewart, in speaking of rods, says:

"The strength of bamboo lies in the skin, and in order to turn this to best account, rod-makers lay two or three strips together so as to form a complete skin all around. Rods are sometimes made entirely of bamboo, but they possess no advantage over those in common use to compensate for the additional expense, a twelve-foot rod of this material costing £3 to £4."

At that time, bamboo rods were all made in three sections, with the enamel on the outside. I know that Mr. Wilkinson says the rods made by Alfred & Sons were put together with the enamel on the inside; but I think this must be a mistake, unless he means that the enamel was on one side of the longitudinal section extending from the apex to the base of the triangle, and when glued is from center to circumference. But put the outside of the bamboo on the side of the triangle or apex, then the enamel is all gone, no matter in what number of sections the rod be made.

On the whole subject of enamel, there is much misunderstanding. No split bamboo rod ever was, is, or can be made with the enamel intact, no matter what number of sections or form of its construction, for the following reasons:

Calcutta bamboo (*Bambusa arundinacea*), which is the bamboo used for making rods, is one of the most useful and important of the grass family, and consists of a culm or cylinder (except at the nodes or joints, which are about ten to fifteen inches apart) and a solid at the nodes, with a projection on the outside of one-fiftieth to one-thirtieth of an inch all around, except at the axil, where the branches grow on alternate sides. This projection has to be taken off in making the rod; then going through the thickness of the enamel from five to eight times, for the space of from one to two inches at each node, of which there are three in each of the six sections (which is the best number of sections from which a split bamboo rod can be made). These nodes being the weakest spot in the bamboo, in gluing up the sections they are never put on a line with one another, but one is moved up, say, two inches; the next down two inches, so as to make six less weak spots in the circumference of the joint and eighteen in each joint.

All the Calcutta bamboo imported into this country or England is burned, before being exported, with a red-hot iron of elliptic form and from one-half to three-quarters of an inch wide, which destroys the strongest fiber immediately in contact with the enamel, and loosens the latter, so that, by estimate, about one-fifth of the enamel comes off in the working. As you cannot retain it all on the rod, it is just as strong if all the enamel is taken off; in fact, the enamel, or silex, on the outside of the bamboo only stiffens, but does not strengthen it. Glass is melted silex, and no one would think a rod was strengthened by giving it a coat of silex varnish.

It will be seen from the foregoing that in 1848 Ephemera's "Hand-book on Angling," second edition, mentions the *complete* three-section split bamboo rod as being in use in England, and that the first edition of this book, published in 1844, has reference to the same rod. In 1851, rods of similar make were exhibited at the Crystal Palace by three manufacturers, and two other writers on angling mention these rods in their books, published in 1855 and 1856. The earliest date of manufacture in America of the *complete* split bamboo rod is that of 1860, when Mr. Green, of Newark, N. J., made a few rods of this character.

WILLIAM MITCHELL.

Since reading the interesting and valuable article by my old friend, Mr. William Mitchell, * * * I have consulted a modest angling library (which has always been at his service, as he well knows), and found that it contains both the works which he was desirous of seeing.

The first edition of the "Hand-book of Angling," by "Ephemera" (Edward Fitzgibbon), was published in 1847, not 1844, and it was owing to this mistake as to date, no doubt, that it was not to be found "in the Lenox or Astor library, or in any private library."

Blacker's first edition (1842) I dismiss from the discussion, as it contains no allusion to the construction of split bamboo, or to any kind of rod, in fact, but is devoted to the "Art of angling and complete system of fly-making and dyeing of colors."

Mr. Fitzgibbon, in the first edition of his work, pp. 278 *et seq.*, in speaking of the construction of a salmon rod, says that he consulted

a "Mr. Little, of 15 Fetter Lane, rod-maker to His Royal Highness, Prince Albert," who described the process of making the top and middle joints thus:

"They are to be made from the stoutest pieces of bamboo cane, called 'jungle,' and brought from India. The pieces should be large and straight, so that you can rend them well through knots and all. Each joint should consist of three rent pieces, split like the foot of a portable garden chair, and afterward glued together, knot opposite to knot, or imperfect grain opposite to imperfect grain, but the best part opposite to that which may be knotty or imperfect, so as to equalize defectiveness and goodness. The natural badness of the cane you counteract by art, and none save a clever workman can do it. The butt of a salmon rod should be made of plank ash or ground ash, though many good judges prefer willow or red deal, as being much lighter, and where lightness is required the whole rod may be made of cane. The few makers that have as yet attempted solid cane or glued-up rods have generally placed the bark or hardest part of the cane inside in gluing, and then reduced the joints down on the outside to the usual tapering shape. Give me, however, the workman who glues the splices with the bark outside, and then gives his rod a true and correct action, allowing the three different barks to be seen visibly on the outside after he has rounded the whole.

"If the pieces are skillfully glued together they will require no reducing, except at the corners, to bring the rod from the three-square to the round shape. I am prepared to prove that there are not more than three men in London capable of making, perfectly, rods of solid cane, rent, glued, and then correctly finished with the bark lying on the outside."

Mr. Fitzgibbon goes on to say:

"In my opinion, rods made entirely of lancewood are the worst; and those made entirely of rent and glued jungle cane are the best. They must be most carefully fashioned, and no maker can turn them out without charging a high price. I am also of opinion that they will last longer than any other sort of rod, and are far less liable to warping. I have a high opinion of their elasticity, and Mr. Bowness, fishing-tackle maker, of No. 12 Bellyard, Temple Bar, showed me once a trout fly-rod, made in this, my favorite way, *that had been for many years in use* [the italics are mine—L. D. A.] and was still straight as a wand. I never saw a better single-handed rod."

Allowing a reasonable construction to the expression, "for many years," this would seem to show that rods of "rent and jungle cane" were made as far back as 1830–40.

It would be interesting to know what led to the sudden change of opinion as to the merits of such rods of "Ephemera"; that is to say, within the space of a twelvemonth—the period which elapsed between the dates of publication of the first and second editions of his book. As a not absolute disbeliever in bamboo rods, I, for one at least, confess to a good deal of curiosity upon this point.

Lawrence D. Alexander.

ON THE INVENTION OF THE REEL.

By Alfred M. Mayer.

The first mention of the reel I have been able to find is the following passage taken from Barker's "Art of Angling," London, 1651.

"Within two foot of the bottom of the rod there was a hole made for to put in a wind, to turn with a barrell to gather up his line, and loose at his pleasure."

In the second edition of this work, 1657, the author says:

"You must have your winder within two foot of the bottom, to goe on your rod made in this manner, with a spring, that you may put it on as low as you please."

In Izaak Walton's "Compleat Angler," London, 1655, p. 189, second edition, in Chap. VII., containing "Observations of the Salmon, with Directions how to Fish for Him," is this passage:

"Note also, that many use to fish for a Salmon with a ring of wire on the top of their rod, through which the line may run to as great a length as is needful when he is hooked. And to that end, some use a wheel about the middle of their rod, or near their hand, which is to be observed better by seeing one of them than by a large demonstration of words."

But it appears from the directions how to angle given in this work that neither Walton nor Cotton made use of the reel. Also, the passage just quoted, which mentions the reel, does not exist in the first edition of the "Compleat Angler," published in 1653.

Among the objects composing the frontispiece to "The Experienc'd Angler; or, Angling Improved," by Col. Robert Venables, London, 1662, is a good representation of a reel or winch. In this work occur the following directions as to the use of the reel:

"The next way of angling is with a troll for the Pike, which is very delightful; you may buy your troll ready made, therefore I shall not trouble myself to describe it, only let it have a winch to wind it withall, * * * * * * and then you may certainly conclude he hath pouched your bait, and rangeth abroad no more; then with your troll wind up your line, till you think you have it almost straight; then with a sharp jerk hook him, and make your pleasure to your content. * * * * * * The Salmon takes the artificial fly very well; but you must use a troll, as for the Pike, or he, being a strong fish, will hazard your line, except you give him length."

Juliana Berners, in her "Treatyse of Fysshynge with an Angle," printed in 1496, does not speak of the reel.

ON THE ORIGIN OF THE ARTIFICIAL FLY AND THE SILK-WORM GUT.

By Alfred M. Mayer.

"Who has not seen the *scarus* rise,
Decoy'd and caught by fraudful flies?"

Martial, A. D. 43–104.

The earliest explicit account of the use of the artificial fly is by Ælian, a Latin author of the early part of the third century. In his "De Naturâ Animalium," a work originally written in Greek, we read:

"I have heard of a Macedonian way of catching fish, and it is this: Between Beroca and Thessalonica runs a river called the Astracus, and in it there are fish with spotted (or speckled) skins; what the natives of the country call them you had better ask the Macedonians. These fish feed on a fly which is peculiar to the country, and which hovers over the river. It is not like flies found elsewhere, nor does it resemble a wasp in appearance, nor in shape would one justly describe it as a midge or a bee; it imitates the color of the wasp, and it hums like a bee. The natives call it Hippouros. As these flies seek their food over the water, they do not escape the observation of the fish swimming below. When, then, a fish observes a fly hovering above, it swims quickly up, fearing to agitate the river, lest it should scare away its prey; then coming up by its shadow, it opens its jaws and gulps down the fly, like a wolf carrying off a sheep from the flock or an eagle a goose from the farm-yard. Having done this, it withdraws under the rippling water. Now, though the fishermen know of this, they do not use these flies at all for bait for the fish; for if a man's hand touch them, they lose their color, their wings decay, and they become unfit for food for the fish. For this reason, they have nothing to do with them, hating them for their bad character; but they have planned a snare for the fish, and get the better of them by their fisherman's craft. They fasten red (crimson-red) wool round a hook, and fit on to the wool two feathers, which grow under a cock's wattles, and which in color are like wax. Their rod is six feet long, and the line is of the same length. Then they throw their snare, and the fish, attracted and maddened by the color, comes up, thinking, from the pretty sight, to get a dainty mouthful. When, however, it opens its jaws, it is caught by the hook, and enjoys a bitter repast—a captive."

Subsequent to Ælian's time, fly-fishing is not mentioned by any author till Dame Juliana Berners, in 1496, writes of it as a mode of angling well known, for she introduces the subject abruptly, as follows:

"Thyse ben the xij flyes wyth whyche ye shall angle to ye trought & grayllyng: and dubbe lyke as ye shall now here me tell."

She then describes "the donne flye, a nother doone flye, the stone flye, the yelowe flye, the black louper, the donne cutte, the maure flye, the taudy flye, the waspe flye, the shell flye, and the drake flye," and gives the months to which they are especially adapted. An idea of her description is given in the following:

"In the begynnynge of Maye, a good flye, the body of roddyd wull & lappid abowte wyth blacke sylke: the wynges of the drake & of the redde capons hakyll."

Dr. Bethune says: "The twelve flies in the Berner's Treatise are the substratum of the mystery Colton has built up wisely and correctly."

"James Saunders, in his 'Compleat Fisherman,' London, 1724, is the first *angling* author who mentions silk-worm gut (pp. 91–92); but Pepys, in his diary, says (March 18, 1667): 'This day Mr. Cæsar told me a pretty experiment of his angling with a minikin, a gutt-string varnished over, which keeps it from swelling, and is beyond any hair for strength and smallness. The secret I like mightily' (Vol. III., p. 171, Edition 1828). A writer in the "Field" (Jan. 2, 1864), on the subject of silk-worm gut, says: 'About three months since, Mr. Geo. Bowness, of Bellyard, shewed me an advertisement of his grandfather's, date 1760, announcing that the *new article*, silk-worm gut, is to be had there. This pretty nearly fixes the date of its introduction into the tackle trade.'"—From *Bibliotheca Piscatoria*.

RELATION BETWEEN THE WEIGHT AND LENGTH OF BROOK-TROUT.

By W. Hodgson Ellis.

Two summers ago I formed one of a little party of anglers who spent the first three weeks of July and the first week of August on the north shore of Lake Superior. While there we made a number of careful observations of the weight and length of the trout we caught. The result of these observations I have collected in a table, showing the average weight corresponding to each inch in length from thirteen to twenty-three inches, the number of observations from which each average was determined, and also the corresponding weights calculated on the assumption that the weight varies as the cube of the length.

Two conclusions may be drawn from these observations: First, that under similar conditions all trout have the same shape. Secondly, that they grow symmetrically; that is, a five pounder is the same

shape as a pounder. It is unnecessary to add that these conclusions can only be true under similar conditions. We cannot compare well-fed trout with half-starved ones, nor trout full of spawn with those not in that condition. Nor have we any right to suppose that figures deduced from observation on Lake Superior trout will apply to those caught elsewhere.

The growth of a trout takes place in three dimensions—length, breadth, and thickness; and if the growth is symmetrical, each of these dimensions will increase in the same proportion. Thus, if one fish is twice as long as another, he will also be twice as thick and twice as deep. He will, therefore, be *eight* times as heavy. In other words, the weight varies as the cube of the length.

If, then, we divide the cube of the length of a trout by the cube of the length of a pound trout, we shall, if the trout grows symmetrically, obtain the weight of that trout in pounds.

We see by the table that the length of a pound trout is thirteen inches, but as this number is only founded on one observation, it will not do to base our calculations upon it.

We can, however, from the length of a four-pound, three-and-a half-pound, three-pound, and two-and-a-half pound trout, calculate what the length of a pound trout ought to be. We find that the numbers obtained from all these four starting points agree exactly; and hence we obtain the number 13.17 inches as the length of a pound trout. The cube of 13.17 is 2286; and hence, if w = the weight in pounds, and l—the length in inches, of any trout:

$$w = \frac{l^3}{2286}.$$

The correspondence between the numbers calculated by this method and those found by observation is rendered still more striking, if we express them graphically, by representing the length on a horizontal scale, and drawing at each inch a perpendicular proportion to the weight. * * *

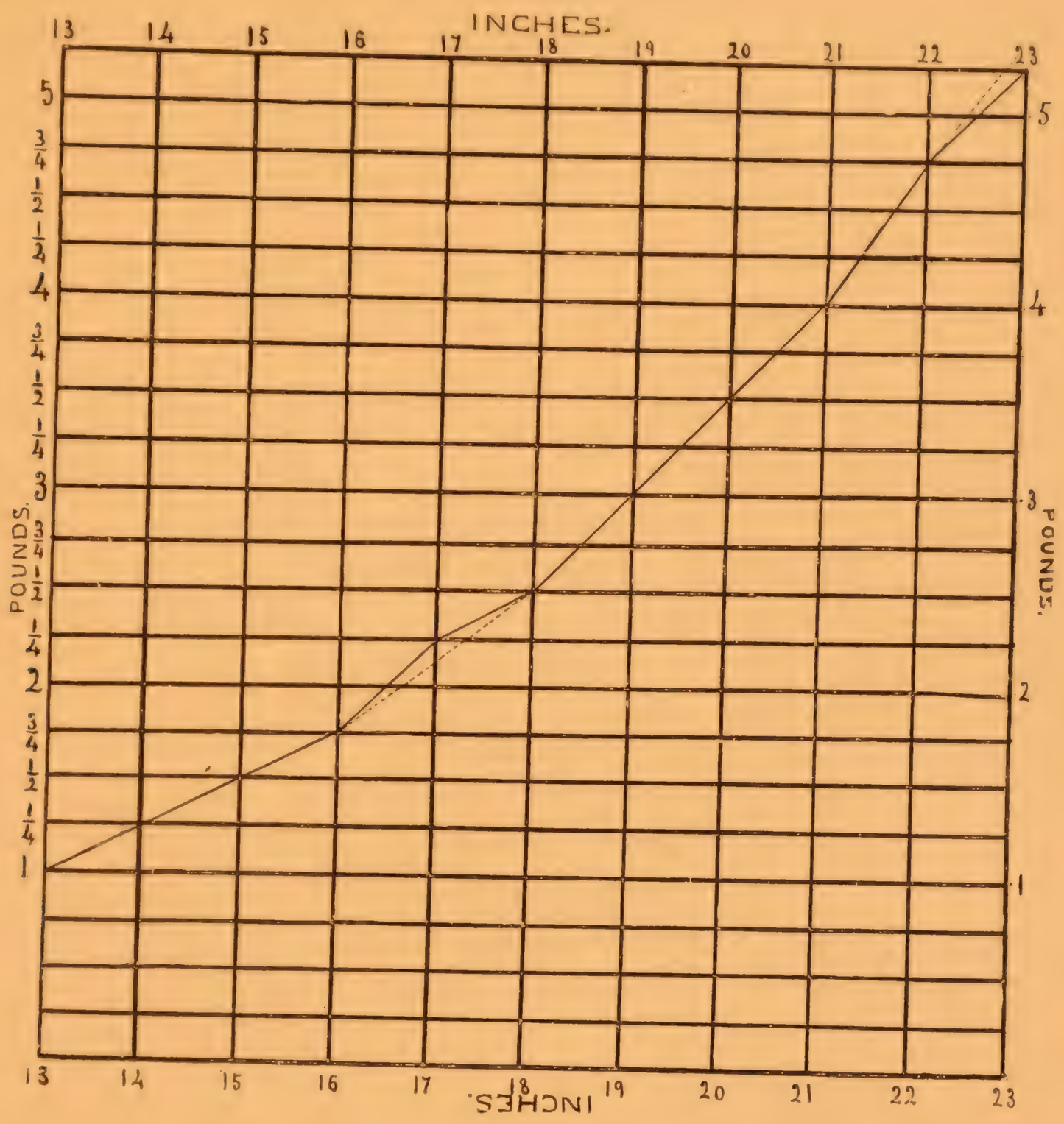
The result will be a regular curve, almost coincident with that obtained from the formula given above.

Our trout were almost all caught in the lake, off rocky points, and at the mouths of small streams. They were in excellent condition. The average weight of our whole catch was two and a half pounds.

Curve showing the relation between the length and weight of brook-trout.

The continuous heavy line represents the results of observation.

The dotted line shows where the theoretical curve differs from that obtained by observation.



Length in inches.	Number of observations.	Observed average weight in lbs.	Calculated from formula $w = \frac{l^3}{2286}$.
23	1	5¼	5·32
22	2	4¾	4.65
21	6	4	4.05
20	12	3½	3·50
19	9	3	3.00
18	9	2½	2.55
17	10	2¼	2.15
16	9	1¾	1.79
15	6	1½	1.48
14	3	1¼	1.20
13	1	1	.96

The foregoing article by Mr. W. Hodgson Ellis, of the School of Practical Science, Toronto, Canada, is here reprinted by permission of the author and the editor of "The American Angler," in which journal it was first published.

Mr. Ellis has put to the tests of measure and weight the opinions which Sir Humphrey Davy thus gives expression to in his "Salmonia; or, Days of Fly Fishing." Edit., Lond., 1851, p. 32.

POIETES.—This great fish that Ornither has just caught must be nearly of the weight I assigned to him.

HALIEUS.—Oh, no! he is, I think, above 5 lbs., but not 6 lbs.; but we can form a more correct opinion by measuring him, which I can easily do, the butt of my rod being a measure. He measures, from nose to fork, a very little less than twenty-four inches, and consequently, upon the scale which is appropriate to well-fed trout, should weigh 5 lbs. 10 oz.,—which, within an ounce, I doubt not, is his weight.

PHYSICUS.—Oh! I see you take the mathematical law, that similar solids are to each other in the triplicate ratio of one of their dimensions.

HALIEUS.—You are right.

PHYSICUS.—But I think you are below the mark, for this appears to me to be an extraordinarily thick fish.

HALIEUS.—He is a well-fed fish, but in proportion not so thick as my model, which was a fish of seventeen inches by nine inches, and weighed 2 lbs.; this is my standard solid. We will try him. Ho! Mrs. B., bring your scales and weigh this fish. There, you see, he weighs 5 lb. 10½ oz.

The following relations I found to exist between the length and weight of trout caught in the head-waters of the Androscoggin and Dead Rivers in Franklin County, Maine:

Length.	Weight.	Length.	Weight.
8¾ inches	¼ pound.	12¾ inches	¾ pound.
11 "	½ "	14 "	1 "

The relations are the results of many measures and weighings, and will serve to supply the length and weight of trout smaller than those given in Mr. Ellis's table.

It appears that the Lake Superior trout are stouter than those of the Maine waters above named, for I have found from many measures that a Maine brook-trout of one pound weight measures exactly fourteen inches from tip of nose to middle of end of caudle fin. Mr. Ellis gives 13.17 inches for the length of a

pound trout. In applying his formula to the trout of Maine, it should read:

$$w = \frac{l^3}{2744}.*$$

Sir Humphrey Davy's statement, that an English trout *(Salmo fario)* 17 inches long weighs 2 lbs., agrees to ¼ lb. with the weight of an American brook-trout *(Salvelinus fontinalis)* 17 inches in length, as given in Mr. Ellis's table. If we take the weight of this sized trout as given by the theoretic curve of Mr. Ellis's diagram, it will differ only 2 oz. from the weight of Sir Humphrey Davy's 17-inch fish.

If a stick be notched at distances from one of its ends equal to those corresponding to the lengths of trout of from ¼ lb. to 5 lbs. in weight, it might serve the double purpose of a club wherewith mercifully to kill the trout as soon as caught by giving him a blow back of the head, and to serve as a standard of measures wherewith our "brother of the angle" may obtain the weight of his fish, and thereby put a bridle on his imagination, and make of himself a truthful man when he speaketh of the great weights of fish caught in certain waters.—[Editor.]

* This law will not hold good for Maine trout over five or six pounds in weight, for after they have reached that weight they do not grow symmetrically, but become obese. In a letter from Mr. Ellis, referring to the trout whose weight and length are given in the above table, he says: "Our trout were beautiful, symmetrical fellows, and in capital condition."





FEATHERED GAME

Together let us beat this ample field,
Try what the open, what the covert yield.

—Pope.



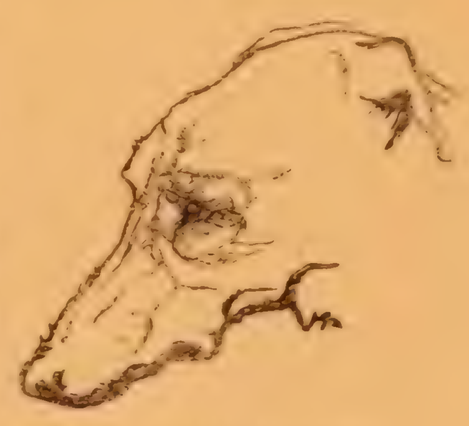
SOME AMERICAN SPORTING DOGS.

By WILLIAM M. TILESTON.

TO WRITE of sporting dogs, or, in other parlance, of dogs used for field-work, without mentioning the fox-hound, would be like representing the play of "Hamlet" with the melancholy Dane himself omitted. Yet I am fain to confess that this noble dog is the one with which I am least familiar. Certainly, I have heard his deep-toned voice while following the trail of a deer in northern woods, but he was only a degenerate scion of a noble race. I have followed another, still more degenerate, when the light snow showed the tracks of poor bunny where she wandered through the swamp in search of bud or berry for her morning meal. But the true fox-hound, without a cross, and bred with care, is a *rara canis*, at least in the northern States. And yet the fox-hound — certainly if we judge by the proclivities of the original settlers of different regions — was probably the first dog introduced into this country. It is not likely that the Pilgrim Fathers were given to the sports of the field; and yet what glorious shooting there must have been in the old commonwealth when the *Mayflower* first dropped her anchor. How the ruffed grouse must have bred in the deep pine-woods! How the snipe must have swarmed in the meadows! and the woodcock in the swamps! And the deer, undisturbed by the sound of fire-arms or the bay of hound, how they must have increased and multiplied!

But whatever the Roundheads did, the Cavaliers who went to Virginia certainly carried their amusements with them, though tradition says not whether John Smith had dogs with him, or if the gentle Sir Walter discovered the nicotian weed through the medium of

a sharp-nosed hound. Still, the fox-hound was introduced into Virginia at a very early day, and in that State, and perhaps in one or two others, he is to be found, and is still bred in comparative purity,— not that I would infer that pure-bred hounds are not to be seen elsewhere. Individuals are occasionally to be met with, and in the pack of Mr. Joe Donahue, who hunts near Hackensack, are to be found some fine specimens. Nor is it of any use for the most ardent fox-hunter of to-day to import dogs from England. It was not until the latter part of the seventeenth century that fox-hunting and the breeding of fox-hounds were pursued systematically in Great Britain, and it was probably in the middle of the succeeding century that the sport was brought across the water. It is a well-known fact that fox-hunting was a fashionable amusement in Virginia long prior to the Revolution, and it is not improbable that the old style of Spanish pointer, then fashionable in England, shortly followed the fox-hound. To fox-hunting, however, we must give the first place as a sport followed with the aid of a dog, and in spite of vicissitudes and tribulations of every kind, the southern gentleman still follows his pack, and enjoys the chase with the same zest as his forefathers. The fox-hound of to-day in America, however, is a very different animal from the hound now fashionable in England, and the choicest draft from the Quorn or the Pytchley would be found almost useless in a country so thickly timbered and with such high rail-fences as ours. In the earlier days of the colonies, the hounds then imported were much better suited to the needs of the sportsmen. A slow dog, such as was fashionable in the days of Squire Western, before hunting came to more closely resemble steeple-chasing (as it does now), was the dog which found favor with our Virginia gentlemen, and whose characteristics have been since adhered to. Not but that speed is desirable in a hound, but in our country it would be difficult, if not impossible, to follow him; and the introduction into the pack of one dog such as is now used in England would most probably result in spoiling the sport.



DEER-HOUND.



GREYHOUND.

Whatever may have been the quality of the first hounds imported, some of the bluest blood of the English kennels was subsequently



THE MEET AT THE "HARP AND EAGLE," NEAR PHILADELPHIA, 1823.

crossed with it. In 1825, Robert Oliver, the merchant prince of Baltimore, imported some celebrated black, white and tan hounds from Ireland, whose descendants are still highly prized. Subsequently, Commodore Stockton was presented by Sir Harry Goodricke, master of the Quorn, with several couples from that pack, some of whom were given to the late Mr. John S. Skinner, of Baltimore, who sent them to Wade Hampton, Esq.,— father of the gentleman at present bearing that name,— who used them for hunting deer in the neighborhood of the White Sulphur Springs, Va. Afterward they went to his estate in South Carolina, where their blood has been mixed with that of the older strains until probably none of it remains in its purity. Fox-hunting, however, was not entirely confined to the Southern States, as will be seen by the following notice, which appeared in the "United States Gazette," published in Philadelphia, on October 29, 1823:

TO GENTLEMEN SPORTSMEN.— A FINE RED FOX (LATELY caught) to be started from the house of Mr. James Greenham, sign of the Harp and Eagle, near the Upper Ferry, Schuylkill Bridge, on Friday, the 31st inst., at half-past one o'clock, P. M. Gentlemen sportsmen desirous of attending said chase will be thankfully received, and are particularly requested to bring their dogs, as this is for no benefit, any more than hoping said sportsmen will put their mites toward paying the cost of this advertisement.

The fox appears to have been only a "bagman," and the hounds a scrub pack selected for the occasion. I have been writing now only of the hound as he is used in fox-hunting; in almost every section of the country where deer are found the fox-hound is used for hunting them. Here speed is most desirable, as the hunter does not expect to follow his dogs, but takes his station by some run-way or pond where the deer is almost sure to pass. Great strength is also a capital quality, as a buck at bay is no mean antagonist, and a first-class deer-hound should not only possess the intelligence but the ability to catch a deer by the hind leg and throw him.



RABBIT-HUNTING WITH BEAGLES.

Fox-hounds, generally mongrels, are also used for hunting rabbits (hares) in this country; but a much more valuable dog for this purpose, and one which is fast coming in demand, is the little beagle, a miniature fox-hound, being from ten to twelve inches only in height at the shoulder. Merry workers they are, and to see a pack of them working on the scent of a hare (for we have no true rabbits, wild, in this country) is worth going miles to see. I am astonished that some gentlemen do not get together a pack of beagles. They can be followed on foot, and there are numbers of places within an hour or two's ride of New York where hares can be found in ample quantities for sport. Somewhat similar to the beagle, in size at least, although they differ in having crooked fore-legs, is the dachshund, a dog of German extraction. (John Phœnix said of some one bred in a like manner, that his father was a Dutchman and his mother a duchess.) Dr. Twaddell, of Philadelphia, has some of pure breed, the finest in this country.

As a rule, however, nowadays, when one speaks of a sporting dog, he is generally supposed to refer to a dog used in connection



POINTERS OF FIFTY YEARS AGO. FROM AN OLD PRINT.

with a gun; and it is more particularly with those varieties that I feel at home, and regarding which I propose to write; premising that I am addressing the general reader as well as those young sportsmen who for lack of time and opportunity have yet to learn their A, B, C's in dog matters. The interest in dogs, particularly those used in shooting, has of late so increased that scores of would-be critics and authorities have sprung up. Without pretending to the erudition of those professors in canine lore, my object is to impart to the class first mentioned such information, the result of my own experience, as will aid them, not only in deciding what description of dog may best suit their purposes, but also in keeping their dogs in health and right condition. To further assist my endeavors, I have selected for illustration such dogs as are types of their various classes, and who have attained celebrity on the show-bench and in the field. Those who are not in the habit of reading the sporting literature of the day—and I mean by this the literature provided for the sportsman, not the sporting man—would be surprised were they made aware of the amount of paper spoiled and ink spilled in the wordy warfare which has been carried on for two or three years past, relative to the merits and demerits of various strains. Nor is the discussion confined to strains alone. I find myself at the outset called upon to decide, or at least so to describe

that the reader can decide for himself, upon the relative merits of the two principal varieties of the dogs over which we shoot our game: namely, the setters and the pointers.

If our country were more circumscribed in its limits; were our shooting confined, say, to the States of New York, New Jersey, and Pennsylvania, the question would be one easily solved; for, if we except snipe-shooting on the meadows, most of our gunning is done in coverts; filled, perhaps, with low growing underbrush or thick and tangled vines and briers. It is true that quails feed in the stubble, and the bevies are usually first flushed in the open, but they immediately seek the recesses of swamp or wood, where they must be followed and routed singly if the bag is to be filled. The woodcock, the king of our game birds, haunts, in summer particularly, only the densest cover, where, by some little stream or marshy thicket, he finds in the yielding ooze and soft earth the worms and larvæ which form his diet. It therefore stands to reason that the dog for our purpose would be one like the setter, whose thick coat of hair would enable him to withstand the attacks of briers and brush, and all the effects of wet and cold; whose feet, provided by nature with tufts of hair between the toes, carry him without injury over the sharp flints of the mountain-side, where the ruffed grouse (partridge) loves to bask among the old logs and dead trees.

But our country is not all briery thicket or rough mountain-side. At the West there is the "boundless prairie," the home of the pinnated grouse, or "chicken"; where "cat" or "bull" briers are not found, and where wading is comparatively unknown. Here the sleek-coated pointer is in his element; for "chicken"-shooting in most States begins in August, and the heavy-coated setter suffers from the heat and want of water, while the pointer with his close hair hunts on, asking only for an occasional lap of water, until the day's work is done. In many places also the Canada thistle abounds, the burrs of which become so entangled in the coat of the setter as to cause him perfect misery. I have quite recently known of several instances of dogs positively refusing to work until the burrs were removed. In all such places the pointer is undoubtedly the best dog to shoot over. But all sportsmen do not go to the prairies in August, nor is the pinnated grouse the only game bird to be found there. In the latter part of September the ducks and snipe begin to



FOX-HUNTING IN THE SOUTH.

arrive on their annual southern migration; and then we have not only the cold weather which makes the setter comfortable in his thicker jacket, but we must go into the wet lands to find snipe, and the ponds or lakes for ducks. Here the setter undeniably has the advantage; for although the pointer will go into the water if ordered, or, if highly bred, into the most tangled thicket, his shivering and shaking discomfort in the one instance, and his lacerated and bleeding skin in the other, make him an object of compassion to a considerate master, and militate against the pleasures of the hunt. But the question is by no means, as yet, decided against the pointer. There is another thing in his favor which is well worthy of consideration before we arrive at a conclusion, and that is the comparative ease with which he is broken, and his excellent quality of retaining his education when once it has been fully perfected. Indeed, so much am I impressed with the value of that quality, that I should almost be tempted, in spite of a strong *penchant* for the setter, to suggest to

a friend who would shoot but occasionally, and desired to break his own dogs, to choose a pointer in preference. But to those who are skillful in handling dogs, and who are so situated as to be able to keep their dogs in work during the shooting season, there can scarcely be a doubt that the setter is the better dog. Certainly he is the choice



RED IRISH SETTER "DICK." (OWNED BY WM. JARVIS, CLAREMONT, N. H.)

of the larger number of sportsmen, although it must be admitted that fashion prevails here as everywhere, and the setter is the fashionable dog of the day. Of course, in both setters and pointers there are exceptions to the general rules I have given, and individuals of either variety are to be found possessing the best qualities attributed to both.

Leaving the question of superiority, let us look at the different breeds and strains of both setters and pointers to which the choice must be narrowed down. There are now in this country two public tests for sporting dogs at which their qualities may be decided,—bench-shows and field trials. At bench-shows dogs are exhibited in raised pens or boxes, and being taken before a duly appointed and presumably competent person, are judged by a certain standard for each variety, which I shall presently mention. This test, of course, is similar to one which a race-horse would pass in his box, and although it might be an indication, through form, of speed, endurance, and intelligence, it would be no index of the possession of those two great requisites, "nose," or scenting power, and "stanchness," without the former of which the most highly bred dog would be as valueless as the most worthless cur. At field trials dogs are



BLACK AND WHITE SETTER "GUY MANNERING." WINNER OF THE SCOTT SPECIAL PRIZE FOR BEST "NATIVE ENGLISH" SETTER AT THE CENTENNIAL BENCH-SHOW. (OWNED BY DUDLEY OLCOTT, OF ALBANY, N. Y.)

pitted against each other on their game, and judgment given through a certain scale of merits and demerits: they are awarded points for pointing their birds, for stanchness, pace, style, backing, and retrieving; or, deprived of them, for flushing birds, for backing, or for refusing to drop to shot or wing. It is obvious, however, that in the limited time allowed for a "trial," that the best dog might not always have the same opportunities to show his qualities as one his inferior. Still, when the rules shall have been perfected, the field trial will be a satisfactory test of the qualities of a dog for the purposes required.

Setters are divided into three classes, the English, Irish, and Gordon; these being usually divided again, at bench-shows, into native and imported classes. It is principally over the English setters—and the term is supposed to include those of every color but red, which would indicate Irish blood, and black-and-tan, which is the color of the Gordons—that the fight has been carried on, one side claiming that the native dog—that is, one whose pedigree could not be traced directly to some imported celebrity—was a mongrel, and the other maintaining with equal persistency that the "blue blood," or imported dogs, were utterly unfit for our work, and that the careful but in many instances "in and in" breeding had resulted in deterioration. Of course both sides were, to a certain extent, right; but, as is usual in violent partisanship, overeagerness had carried the matter beyond solid argument, and the outsider was left as much as ever in the dark. It must be admitted that, until

the inauguration of bench-shows, breeding in this country, as a rule, was conducted in a most careless and slipshod manner, yet I believe we had strains of dogs, as well as individuals, which, even allowing each the benefit of its own ground and training, were fully equal, certainly as field performers, to any across the water. That we



GORDON SETTER "LOU."

would have *continued* to possess them I very much doubt. Careless breeding, with no regard to the selection of the fittest, and no attention to pedigrees, combined with the fact that there are ten men to-day who shoot over dogs to where there was one twenty-five years ago, would soon have worn out the stock, had it not been renewed and regenerated with imported blood. There is no comparison between the amount of work demanded of our dogs and that required in England. Here, the average sportsman owns but one dog, and that one is expected to work from morning until night, day in and day out; while across the water no one thinks of going to the moors without at least half a dozen dogs, which are worked alternately in braces. Nor are their dogs taught or allowed to retrieve. A curly-coated retriever follows at the keeper's heels and brings in the dead, —British sportsmen having a theory that fetching dead birds injures the dog's scenting powers. The crossing of these "blue bloods" with the best of our natives is the true theory of breeding by which we will perpetuate the best qualities of both. Unfortunately, however, if a dog comes with a long pedigree from a widely advertised English kennel he is bred too indiscriminately without regard to his



RETRIEVING.

qualifications for begetting good offspring, and much disappointment is the result. "Imported" is the magic word which covers a multitude of imperfections. Fortunately, very many dogs of well-known excellence have come to this country, and now that the matter has been fully discussed and a proper impetus given, our breeds are rapidly improving, and I believe it is an admitted fact that we have field dogs whose superiors are not to be found. As a specimen of the high-bred dog from imported stock, I have chosen "Guy Mannering," bred by Charles H. Raymond, Esq., of Morris Plains, N. J. This dog is the produce of "Pride of the Border" and "Fairy,"—a pair of celebrated Laveracks, imported by Mr. Raymond from the kennels of the gentleman whose name is given to the strain, and who has bred them in purity for more than fifty years.

The setters known as the native English (a misnomer, as native American would be more proper) are generally, in color, orange and white, lemon and white, black and white, red and white, liver-colored and white, or all black; although they are to be found of a liver and

tan or, in fact, of almost any known combinations of the colors mentioned except those of orange and lemon and black. The points by which they are judged in this country—perfection in these points is supposed to make the acme of a dog—are as follows:

"Head long, and somewhat narrow, with a fair distance from the eye to the end of the nose, which should not be snipy or ant-eater like; skull a little prominent; ears set on low and flat, not thrown back; the least stop just above or across the eyes; jaws level, with a little fullness of lip just at the back of the mouth; eye large but not protruding, with a quick appearance; neck thin and deep at setting-in on chest, moderately long and slightly arched, with no appearance of throatiness; shoulder-blades long and well receding at the points, with a flatness of shoulder-sides not noticed in any other dog; narrow at shoulder-point, but great muscular development in the shoulder-blades and fore-arms; chest very deep, not over narrow between the fore-legs. Fore-legs strong and muscular in the fore-arm; leg straight, with a slight, elastic-like appearance; foot moderately round, but oftener flat; back wide, deeply ribbed, lowering slightly from the shoulder to the hip; loins wide and very muscular; stifles full and well developed; hock well bent; stern [tail] carried almost level with the back, a moderate length, well flagged from the root, wearing off to nothing at tip of stern; coat wavy or straight, fine and silky, free from curl, especially on hind-quarters."

The Irish setter is a dog now fast coming into fashion with us. He is wiry and enduring, but headstrong, requiring a deal of work to keep him in command. When well bred they are remarkably handsome dogs, as will be seen from the portrait of Mr. Jarvis's "Dick." His bench-show points are as follows:

"Head narrow, widening a little in the forehead, skull slightly arched; ears a fair length, slightly folded, hanging straight, set well back in the head, and moderately feathered; eye hazel or brownish, with a sensible and loving look, not prominent; nose dark flesh-color, or black; chest but moderately wide, with great depth; back straight, but slightly receding to the hip, with good loins and well-bent stifles; stern carried slightly up, not much flagged, but slightly; coat inclined to be harsh, not soft and silky, smooth or wavy, and thick, but not too long; color a deep mahogany-red, but not any black; white, however, is allowable in some Irish breeds on chest and legs and neck."

The Gordon setter, in spite of a well-known English authority, from whom indeed we have received our points for judging, *does* possess the "go-ahead qualities now required." How any one who has shot over well-bred Gordons can make such an assertion, I am at a loss to imagine. Those that I have seen in the field have been dogs of remarkable endurance, and the rich beauty of their silky black-and-tan coats, and their affectionate dispositions, are unsurpassed

by any other breed. "Idstone" says he has seen better setters of the black-and-tan than of any other breed. Their heads are a little heavier than the English setters, they have more flew, are deeper in



HEAD OF POINTER "SENSATION." (OWNED BY WESTMINSTER KENNEL CLUB, NEW-YORK CITY.)

chest and body, with more bone; otherwise their points vary but little. Much, however, depends upon their coats, which must be a glossy black with a slight wave allowed, but no suspicion of a curl, and the tan with which they are marked should be of the richest red. Before leaving the setters, a word as to their origin may not be out of place. Most authorities claim that the setter was known in England long before the pointer was introduced, he being a direct descendant of the spaniel. In fact, they are spoken of as "setting spaniels," being used, before the introduction of fowling-pieces, to aid in securing game by first finding the birds and then "setting" or pointing in that position while the net was passed over dog and birds together. In time, after the introduction of the pointer, they came to point their game in the same manner, although even now we occasionally find a setter that drops or crouches to the ground immediately upon scenting his birds.

Although the colors of pointers at the present day are quite as varied as those of setters, there is but little doubt that the color of the old Spanish pointers, from whom they are all descended, was a liver and white. Color is quite a matter of fancy, but I confess to a preference for orange and white in the setter, and lemon and white

in the pointer. But whatever the color, the good points of this dog are to be seen almost at a glance, from his build and the shortness of his coat. The fashionable pointer of the present day is a very different animal from his heavy, lumbering ancestor. Many years ago, a cross of fox-hound was introduced, and to that we are indebted



BLACK-AND-WHITE POINTER "WHISKY." (OWNED BY WESTMINSTER KENNEL CLUB, NEW-YORK CITY.)

for the lighter-framed, more elegant animal we now possess, and probably also for the variations in color from the old orthodox liver, or liver and white. "Idstone" says that the pointer should be modeled to a great extent after the fox-hound, but that his head should be finer, his nose square, the upper lip slightly in excess of the lower, the corners of the mouth well flewed. The forehead should be raised but not round; it should be depressed in the center, almost forming a ridge [*i. e.*, the furrow down the middle of the head separates it into two slightly rounded halves]. There should be a well-pronounced "stop" between the eyes; the ears should be thin, flexible and silky, of moderate size, set rather far back, but lying close to the head. The nasal bone should be depressed in the center, and should turn upward slightly. The head of "Sensation," in the cut on the preceding page, conforms more closely to these conditions than that of any other dog I have seen. The other proportions by which the pointer is judged in this country are as follows:

"Body rather inclined to be long, but not much so, thickening from the head to the set-in of the shoulders no looseness of the throat-skin, shoulders narrow at the meeting



LIVER-AND-WHITE POINTER "RANGER." (OWNED BY S. B. DILLY, LAKE CITY, MINN.)

of the blade-bones, with a great amount of muscle, long in the blades, set slanting, with arm of the leg strong and coming away straight, and elbow neither out nor in; the legs not great, heavy-boned, but with a great amount of muscle; leg pressed straight to the foot, well rounded and symmetrical, with foot well rounded, that is, the fore-legs and feet; chest moderately deep, not over-wide, but sufficiently wide and deep to give plenty of breathing room; back level, wide in loins; deeply ribbed, and with ribs carried well back; hips wide and full of muscle, not straight in the hock, but moderately bent; stifles full and well developed; the stern nearly straight, going off tapering to the point, set in level with the back, carried straight, not above the level of back; symmetry and general appearance racy; and much beauty of form appears to the eye of a real pointer breeder and fancier."

At our bench-shows, pointers are divided into two classes, those weighing under, and those over, fifty pounds. It is difficult to name the period when pointers were first brought to this country. I have traced some as far back as 1810, when a gentleman from Sheffield, England, brought a brace to Bucks County, Pennsylvania, where the "bird-dogs" were objects of great curiosity. I know of no one at the present day who has bred them more carefully or for a longer time than Mr. Frederick Schuchard, of New York. For high courage, keen nose, and most perfect stanchness, I know of no pointer the superior of Mr. Dilly's "Ranger,"—a dog who is worked on the prairies almost every day of the season, and of whom it is said by his admirers, "he never flushed a bird."



COCKER SPANIELS "SNIP" AND "JULIET." (OWNED BY S. J. BESTOR, HARTFORD, CONN.)

There is a dog which is destined to become a great favorite in this country, and I doubt not that we have a much larger sphere for his usefulness than they have in England. This is the little cocker spaniel. He is a merry, active worker, not pointing his birds, but giving tongue when he strikes the scent, which he follows until the bird is flushed. In our thick, almost impenetrable covers, particularly where woodcock are shot, in summer, the cocker is especially valuable, as he can make his way under briers and into places where a larger dog could not penetrate. In such shooting the dog is almost always out of sight of his master, and a stanch setter or pointer might be lost on his point; whereas, the cocker, by giving tongue, apprises the gunner, not only of his own whereabouts, but also of the presence of game. Could I countenance such an unsportsman-like proceeding as shooting a bird while sitting, I might say that they would be useful for treeing ruffed grouse instead of the mongrels now used; but their real value is in woodcock shooting. The illustration of Mr. Bestor's fine imported dogs sufficiently describes their general appearance. There is another variety of spaniel, the clumber, which is deservedly popular in England, as possessing all the advantages in cover shooting of the cocker, but hunts mute. They are rare even on the other side, and the only pure specimens I have seen in this country are those imported by Mr. Jonathan Thorne, Jr., of Duchess County, in this State. As spaniels are not expected to point their game, they should be broken to range close, never more than twenty

or thirty yards away from the gun, and always to "come to heel" or "down charge" at the report.

The dogs to which I have hitherto referred are those used almost exclusively for upland shooting, for although setters, or even pointers, if taught, will retrieve from water, yet when one is to follow



IRISH WATER-SPANIEL "SINBAD." (OWNED BY J. H. WHITMAN, CHICAGO, ILL.)

duck-shooting to any great extent, whether on western lakes or on the waters of Chesapeake Bay or Currituck Sound, it is much better to be provided with a dog particularly adapted for the purpose. In fact, I once almost ruined several good setters in California by allowing them to retrieve constantly from water, the result being that all were afflicted with canker of the ear. At the present writing, my Gordon, "Lou," is displaying symptoms of the same complaint—the result, I believe, of unlimited swimming and diving last summer in the waters of the Great South Bay.* The pure Irish water-spaniel is rarely met with in this country. Mr. J. H. Whitman, of Chicago, a portrait of whose "Sinbad" is given, probably has the finest

* As canker of the ear is a very common disease, always indicated by the dog shaking his head and scratching at his ears, I would mention here that it can be easily cured by the following lotion:—Goulard's extract and wine of opium, of each one-half ounce; sulphate of zinc, one-half dram; water, seven ounces; mix. The ear should first be cleansed thoroughly with soap and warm water, and a little of the lotion injected twice a day.

N. B.—Since the foregoing was written, "Lou" has been entirely cured by this remedy.

kennel of them. At the West, where much of the duck and goose shooting is done where the mud is deep and the wild rice is heavy, a dog of great strength and determination is required to bring in, not only the dead, but the many wounded birds which otherwise would be lost. The water-spaniel does all this, and withal is as docile, obedient, and intelligent as a French poodle. The head should be crowned with a well-defined top-knot, coming down in a peak on the forehead; the body should be covered with small crisp curls; the tail should be round and without feather, and the whole dog a dark liver-color.

The Chesapeake Bay dog, of which there are now three accepted types, is a dog of which even more is expected. He must have strength to breast the heaviest seas and bring in a goose; he must fight his way through broken ice, and if he meets a piece too large to scramble over he must dive under it. Several families in Maryland have had in their possession for many generations what each claims to be the genuine Chesapeake Bay dog, and at the late bench-show in Baltimore a compromise was made, and a classification agreed upon, by which each of the types is hereafter to be recognized. These are to be, first, the otter dog, of a tawny sedge in color; with very short hair; second, the curly-haired dog, red-brown in color, and third, the straight-haired dog of the same color. The dogs at two years old should weigh not less than eighty pounds.

Now that I have described to the best of my ability, and within the space allotted to me, the different varieties of our sporting dogs, the reader must decide upon their merits for himself. Nor can I go into the subject of training dogs for field-work, for I believe, in the first place, that good dog-breakers are born, and not made; and secondly, not only would it be taking up too much space, but instructions, if they are of any value, are to be found in the works of recognized and much better authorities. I believe, moreover, that to a great extent, those sportsmen who are even capable of properly handling their dogs in the field after they are broken, are in the possession of a gift, I might almost call it genius, the secrets of which are patience and self-control. No one who has made his dogs his constant companions can have failed to be struck with the almost human intelligence they sometimes display, and a man who wishes to control his dogs must first control himself. I have known an old, stanch



BREAKING YOUNG DOGS.

dog to be loaned by his owner to some friends for a day's shooting. After working faithfully and finding bird after bird which they failed to kill, the old fellow dropped his tail in disgust and started for home, abandoning his share of the sport rather than witness their want of skill. The most successful men in the field are those who possess the greatest command over themselves; not abusing their dogs for the slightest fault, although using the whip judiciously; for dog nature is very like human nature,—some will do wrong from mere willfulness, and are only to be controlled by a strong hand. That dogs, when regularly shot over, enjoy the sport, is beyond question, and sometimes the mere putting on of a shooting-coat will drive them wild with excitement. And what sight is there more beautiful than that of a well-broken dog at work in the field—the instinct which teaches the wolf or the fox to hunt for his prey, toned down, or rather developed, by education to be subservient to the will of man, and accessory to his sport! You approach a fence, and, having crossed, call to your dog to do the same; for a dog should never, in theory at least, be allowed to enter a field or leave one before you. It is in the autumn, and in the woods the frost-painted

leaves are carpeting the ground, while in the open the golden stubble is being burned by the early frosts. Perhaps it is a buckwheat or rye field where the quail, as active gleaners, still find enough of the scattered grain to afford them subsistence without going to the swamps for buds or skunk-cabbage seeds. Here they have been feeding in the early morning, and have gone to the hedge or that strip of dried grass for their noonday siesta. At the command "hie on," or "hold up," your dog starts on a gallop,—up wind if possible, —head up, to catch the scent which may be drifting across the stubble-tops, his stern—as his tail is technically called—whipping his sides. He crosses and recrosses the field, and presently comes to where the birds have been feeding. In an instant he stops, perhaps half turning to where the faint scent still lingers; but only for an instant, for the scent is cold; but with head to the ground and stern excitedly whipping his flanks, he either "roads" the birds, or, taking another cast, the wind brings him the hot scent of the bevy. Half crouching, he advances until his instinct and the strong scent from the birds tell him he can go no closer, when he stops, with tail extended stiffly, perhaps one fore-foot lifted as though ready for another step, with head rigid in the direction of the birds, and a few flecks of foam dotting his quivering nostrils. Look at him! Was ever a more perfect statue carved? Take your time; he'll stand perhaps for hours if the birds do not move. Now walk up to him; touch him if you will, and still the iron-like rigidity. Now step forward. Never let your dog flush the birds if you can help it. As you pass him, the bevy rise with that sharp, quick "whir-r-r-r" which so thrills the sportsman as frequently to cause him to shoot too quick and wildly. Be cool. Select two of the outside birds,—never shoot at the bunch,—and, covering them carefully, fire. Your dog drops to the ground or the "down charge" as the birds rise, and remains so until you have reloaded and ordered him first to "hold up" and then to "seek dead." Give your dog time. Even if you fancy you have marked the spot where the bird fell to an inch, he may be many yards away. The dog knows how to look for him, and will cast around until he catches the scent, and will road him until the wounded bird stops, when he will point him again.

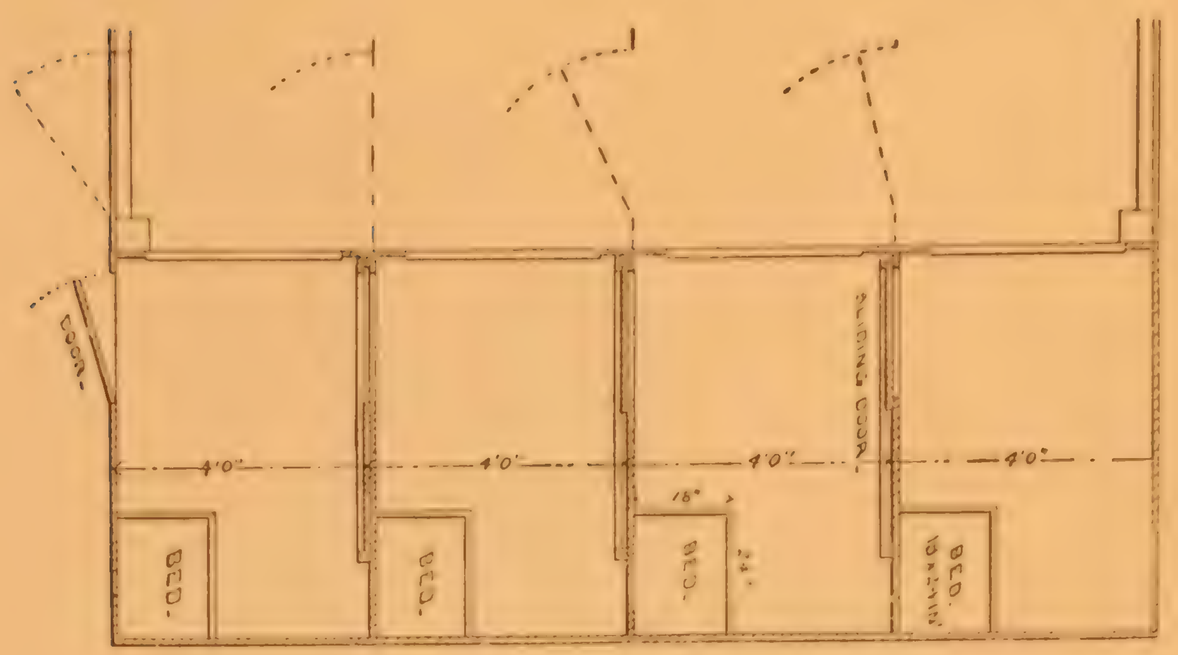
I have said that your dog dropped when the birds rose. No young dog can be considered properly broken unless he drops "to wing"



DOWN CHARGE!

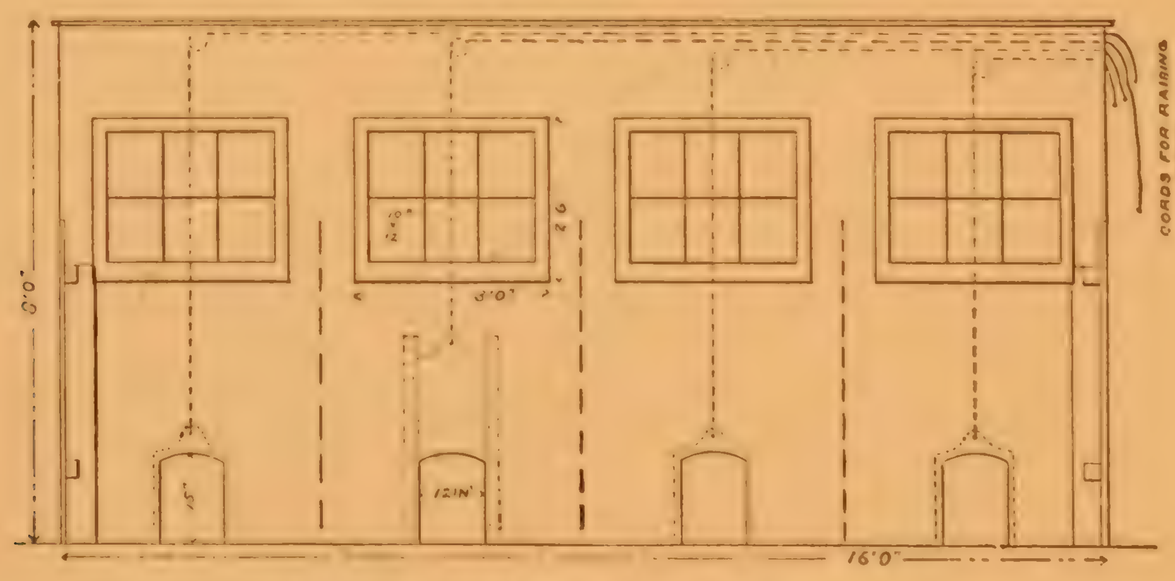
and "to shot"; that is, when a bird rises, and when the gun is fired, and with young dogs the latter at least should always be insisted upon. As they grow older and stancher, I should be satisfied if they came to heel when I fired. There are times when it is positive cruelty to compel a dog to drop to shot, particularly in the case of pointers on wet snipe meadows. It is the English custom not to break dogs until they are a year old. We begin much earlier, and a puppy is generally sent to the breaker at six months. I think much should depend upon the disposition of the dog. If possible, you should house-or yard-break your dogs; that is, teach them to drop or "charge" at command, to come in, to obey the whistle, to stop, and, if possible, to retrieve, before sending them to the breaker. Many prefer puppies born in the fall, as in the spring they can be broken on snipe, and some shooting can be had over them in the fall. I believe, however, that fall puppies are much more difficult to rear, from the fact of their being likely to be exposed to cold and wet; in winter, too, they can get no grass, the corrective provided by nature for all canine ills, and one which should always be within their reach.

The puppy should also be accustomed to the report of fire-arms,



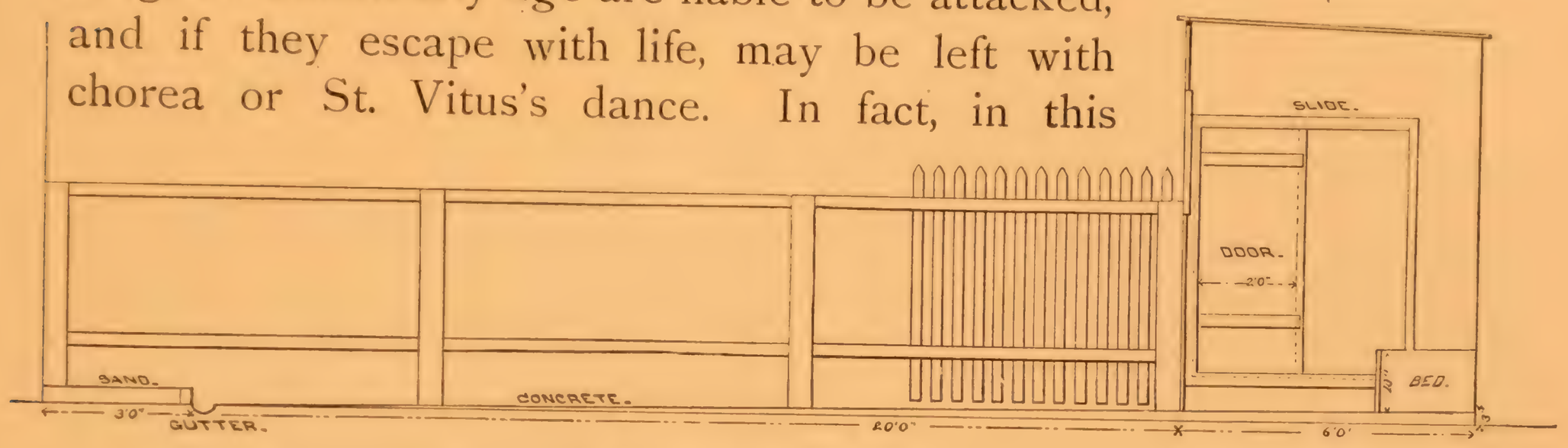
GROUND PLAN OF KENNEL.

as nothing is more discouraging to a sportsman than to find himself in possession of a "gun-shy" dog. This is to be done by taking him to the field, perhaps with an old dog, and by using at first small charges of powder, fired only when he is at a little distance, and perhaps killing some small birds,—the great point being to associate the noise in his mind with some pleasure. Or it is not a bad idea to fire a lightly charged gun near the kennel just before feeding; but these extra precautions need only be taken where timidity is anticipated. Gun-shyness is supposed to be hereditary, but I am inclined to think that where puppies are handled judiciously at first, and not startled by an unexpected report, perhaps directly over them, but little trouble is to be apprehended. Too little attention is paid to the care and diet of dogs. They are left chained to their kennels for days at a time without exercise and without change of bedding, until they become afflicted with mange or covered with vermin. A simple and efficacious remedy for mange is prepared as follows: Take two ounces basilicon ointment, half ounce flour of sulphur, and sufficient spirits of turpentine to make of the proper consistency. Wash the dog thoroughly with carbolic soap, and rub the ointment into the skin. A few drops of Fowler's solution of arsenic is of



FRONT ELEVATION OF KENNEL.

service in extreme cases. Where but one dog is kept, the scraps from the table should be ample for him; but where food must be prepared, there is nothing better than oat or corn meal thoroughly boiled in water, in which some coarse meat—such as a neck of beef or shin-bone—has been cooked almost to shreds, the meat being chopped fine and mixed with the mush. The dogs should never be fed more than twice a day. But the great cause of death among dogs is distemper, and the more finely and carefully they are bred, the more susceptible they appear to be to its effects. Dogs of almost any age are liable to be attacked, and if they escape with life, may be left with chorea or St. Vitus's dance. In fact, in this



SIDE VIEW OF KENNEL.

respect distemper is not unlike measles, which often leaves a patient with some other disorder. Frequent post-mortems have revealed the fact that distemper in some of its forms very much resembles pneumonia, and, as in that disease, a certain amount of stimulation is necessary. The symptoms are, a thick, mattery discharge from the eyes and nose, with a dry, husky cough and a straining, as though a bone were lodged in the throat; a hot, dry nose, and general listlessness, with, later, a weakness of the hind-quarters. Fits, in puppies particularly, are frequently present, but the symptoms vary somewhat, although the above are unmistakable. There are many remedies advocated for distemper, but I believe there is none more generally successful than that suggested by Dr. Webb, which consists of a course of calomel and quinine, commencing with a dose of the former, varying from ten to twenty grains, according to the size of the dog, and followed by doses of five to ten grains of quinine daily, reducing the dose as the dog improves. When taken promptly in hand, and the dog is kept in a warm, dry place, the disease generally yields to this vigorous treatment. Cleanliness is the great source of health, and when more



EDWARD LAVERACK, ESQ., THE OLDEST BREEDER OF SETTERS IN ENGLAND.

than one dog is kept, a regular kennel and yard should be prepared. A capital idea of their arrangement can be had from these plans, which are copied from those of Mr. Jesse Starr, Jr., of Camden, N. J.

Further instruction on the subjects here treated of will be found in such exhaustive works as Dinks, Mayhew, and Hutchinson, or "Stonehenge," or "Idstone"; or, in America, Mr. Arnold Burges's "American Kennel and Sporting Field." Mr. Edward Laverack the oldest breeder in England, has written a work devoted to the discussion of the setter alone, in which are many valuable hints to the breeder and breaker.

No dogs possess greater intelligence or more excellent dispositions than those used by sportsmen, and where careful education has developed them to a high degree, they are fitted in every respect to be the trusted and beloved companions of man.



NORTH AMERICAN GROUSE.

By CHARLES E. WHITEHEAD.

WHERE is the hill-side climber whose heart has not leaped at the burst of the ruffed grouse?

Autumn leaves are golden; the woodland carpet is sodden, and damp with dew and frost; the dank odors of decay and the aromatic balsam bring reveries to the mind; the patch of sunshine through the opening glade warms the body; a listless thought of some by-gone face is fixing your eye; your hand lingers on the polished trunk of the white-birch tree by which you are steadying yourself to swing over the lichened bowlder that bars your way, when whir, whir, whir–r, whir–r–r, whir–r–r–r from your very feet bursts out the cock-bird. The bright leaves fly in spangles, the sharp twigs crackle, and the leafy boughs spatter to his beating wings, as, swerving to the right and left, he dashes away through bush and open glade, and over the ravine, and out of sight, leaving the spectator with a flush on his brow and a prickle in his back, with his mouth half open, looking the way he went. No lady's bird is he. His retreat is the roughest hill-side, where rock and ravine make walking difficult and noisy, or swamps, where fallen trees and moss cover the ground knee-deep, and hemlock and spruce afford covert and buds for food. Sometimes in pairs they are found wandering away through the open woods in search of insects or beech-nuts; and again they will travel along the edges of grain-fields that adjoin swamp-land, to glean the wheat. When snows are deep, they visit old orchards and pick the ungleaned apples; and if the winter is severe they can live on spruce-buds or laurel-berries,—thus making the taste of their winter flesh bitter or even poisonous.

The ruffed grouse lives abundantly from New Brunswick to the prairies of the West, from Canada to the Southern States,—keeping in the South to the high or mountainous lands. It is the most noble and alert of all the grouse family. The shape of its body and the pose of its head indicate robustness, both in walking and flying, and wonderful quickness in observation. Its small crested head turns with constant vigilance, and its full brown eye is expressive of great power of vision, and seems to reflect the landscape immediately after death. Its wings are short and curved, beating the air with great rapidity and giving it an exceedingly rapid flight. Once, breakfasting above Newburgh, on the Hudson, at a country house where heavy plate glass windows extended to the floor, we heard a heavy blow on the window. Running out, we found a cock grouse lying dead on the lawn. A glance at the window revealed the cause; the room was dark within and the window reflected all the landscape, and the bird crossing over to its covert flew into the mirrored copse with such speed as to kill it instantly.

The length of the bird is about eighteen inches,—its full weight twenty-two ounces. Its color is light brown, mottled with darker brown or black. It wears a slight crest, which it can elevate at pleasure. Its tail is short and rounded, with a nearly continuous black bar crossing it near the tip. Its legs are feathered with a hairy feather, and are well proportioned,



so that the bird stands high and runs with speed and endurance. It wears a ruff on its neck, made by the elongation of a half dozen glossy black feathers on each side of the neck, which it can elevate or depress at pleasure, and from which it takes its name of ruffed grouse. These feathers, as well as its other exterior feathers, are dark brown or chestnut, or ashy gray, varying much with individuals in different localities, those in countries farthest north and east being the darkest and most ashy. In the western birds, the color is more rufous. These differences of color have induced some writers to note three varieties of ruffed grouse; but it would seem as if these differences of color are produced by local causes, for we often find the same bird on the Pacific coast having a marked variety of color. Authors have named one variety as the Sabine's grouse of Oregon, and another as the Arctic ruffed grouse of the Arctic regions. In that beautiful monograph of the "Tetraonidæ," by Elliott, we find illustrations of both these so called varieties. Without intending to dispute their existence, a reference to the description of the Arctic grouse will show from what slight variations a new variety is named. That author specifies the marks that distinguish it as a different variety from the ruffed grouse, and mentions as the *principal* mark its size, it being one-third smaller; claiming also that the black band on the end of the tail is not continuous, but skips the three middle feathers. After reading this description, the writer looked over a game-bag of ruffed grouse killed in the northern part of the State of New York, containing twenty rufous-colored and ashen grouse of many shades; in two instances the band was scarcely visible in the middle feathers, and in three instances it did not exist. The diminished size in the Arctic region would be an effect of nature generally recognized.

In the breeding season, the cocks select some fallen tree and, strutting up and down, beat with their wings, making a muffled drumming sound that can be heard for half a mile. The beat is at irregular intervals, beginning slowly and measuredly, and gradually increasing in quickness, until it ends in a roll. If the bird happens to find a dry, well-placed log, his tattoo of welcome can be heard a mile, and is one of the pleasantest of woodland sounds. It has the same accelerated pace, and is about the same duration as the call of the raccoon, and is only heard in the day-time, as the raccoon's

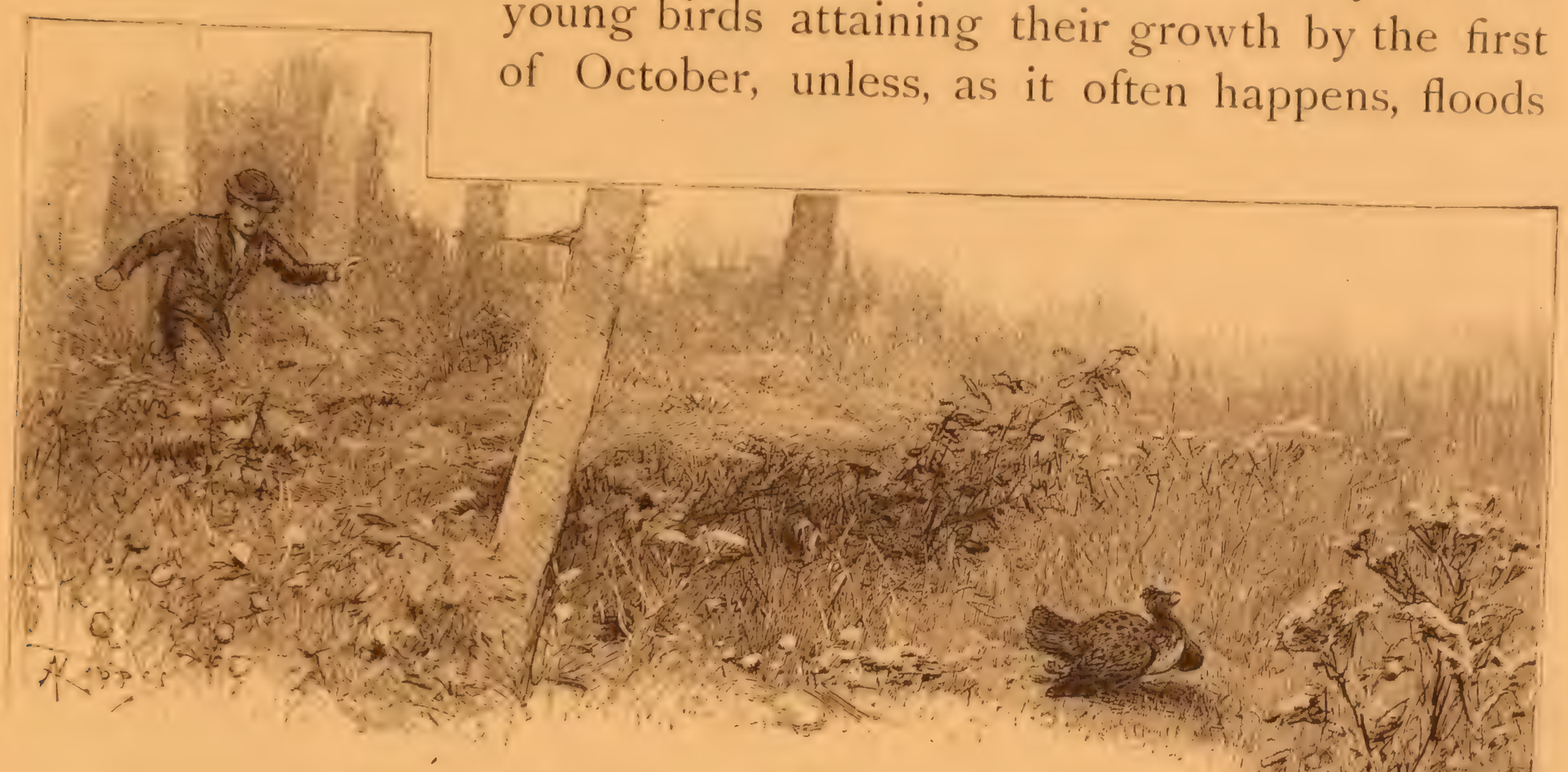


THE DRUMMING-LOG.

is only heard at night. Usually the same cock continues to use the same log, but he will sound his call from any other place as well, the noise being produced by the blow of the wing against the body. When its mate hears the drumming, she slowly approaches, and, coquettishly picking at seeds she does not want, comes within sight of the drumming-log. A snail is on the May-apple plant right before her; she pecks at it three times before hitting it, and then scratches negligently at imaginary seeds. The cock raises his ruff till it looks like Queen Elizabeth's; the yellow skin beneath flushes with pride; he spreads his tail like a fan; he thrums his guitar, clucks an introductory welcome or two, and launches himself out and flies to his bride. If, however, another cock hears the drumming, he feels insulted at the sound on what he considers his own domain. He flies to the drumming-log and dashes at the brave drummer,

and the one who is inferior in courage and strength yields his place to the bolder, and retires discomfited.

After the two birds have come together, the hen builds a hasty nest on the ground with twigs and grasses, laying in it from ten to twelve eggs, of a yellow-brown color, which are hatched in June, the young birds attaining their growth by the first of October, unless, as it often happens, floods



APRIL-FOOL.

or late snows retard the nesting, when the young come to maturity proportionately later.

The habits of the mother-bird when running with her young are conspicuous. Her ceaseless activity, her boldness in danger, her sagacity in finding food, her ability in controlling the dimity little chicks confided to her charge, perpetually challenge admiration. With a warning cluck which the young understand perfectly, she flies away, and they run under the brown and scattered leaves, lying so still and so matched in color that no one can detect them, and when hidden they will not move unless they are touched. Or if the passer comes suddenly upon the brood, the mother's distressed cluck, her fluttered wings, and her tumbling on the ground irresistibly draw you to her. She gradually flutters along, uttering lamentable cries, and when you are about to place your hand on her back she skates away through the forest glade, uttering a note which we can easily translate into "April-fool."

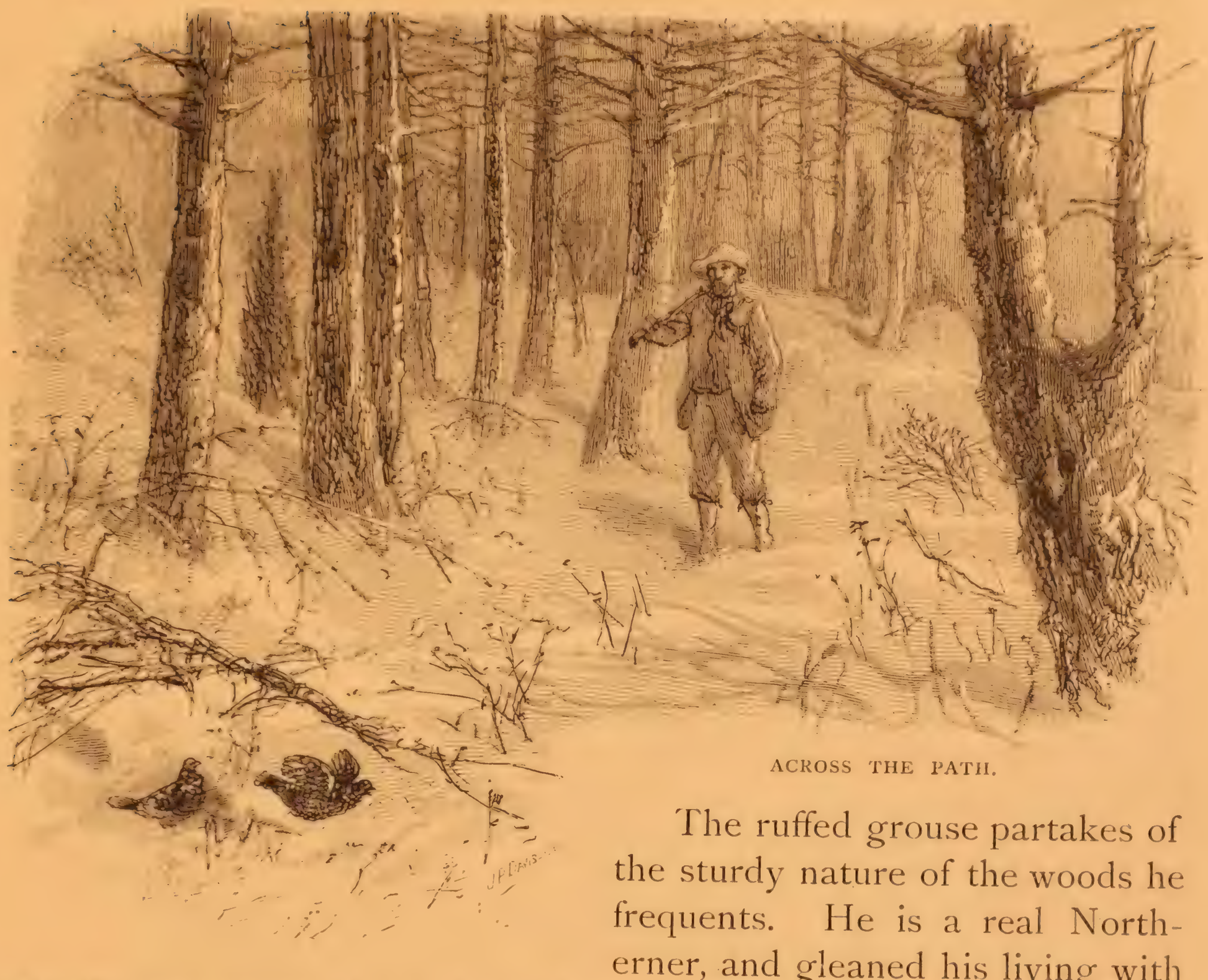
This bird is the friend of the country boy. It has many a time made him jump as it burst out of the way-side bushes, and bird and



A TWITCH-UP.

boy perpetually match their wits against each other,—the one in trapping and the other in avoiding being trapped. Master Barefoot finds a drumming-log, and at once whips out his jack-knife and, bending down a neighboring hickory sapling, sets a twitch-up, with a slip-noose at the end, made of a string pulled out of one of his capacious pockets. The twitch-up being well watched, is sure to catch the bird or drive it away. As Barefoot grows older, he learns to set running snares of horse-hair or silk in the paths in the woods, and he will walk miles to attend them when he is too sick to go half a mile to school. At length, he grows to be a young man, "some farmer, some poacher," making a precarious living by selling game he has trapped or shot in season and out, and killing more birds than all the minks, owls, and foxes in the country side.

There is a curious habit in the ruffed grouse of taking to the trees when pursued by a small dog, and when a number of them flit into one tree, they will sit and be shot at until they are all successively killed, providing, always, that the lowest is killed first, and the dog keeps up his barking. For this chase a little red dog is preferred, and doubtless the birds are accustomed thus to save themselves when pursued by foxes, and they see no difference in their canine pursuer, and are more in fear of him than of the gun, whose character they do not know so well.



ACROSS THE PATH.

The ruffed grouse partakes of the sturdy nature of the woods he frequents. He is a real Northerner, and gleaned his living with the Puritan among the rocks and scaurs of New England. Too proud to migrate, he battled with the storms of the "stern and rock-bound coast," and when winter snows fell heavily, and the searching wind penetrated even the tangle of the spruce-swamp, he would find a lee on the ground, and suffer himself to be snowed under, and quietly wait under his white blanket till the tempest ceased. Sometimes he dashes out before the plodding woodman, all covered with snow-flakes, leaving his little shelter plainly visible in the drift.

The true shooting season of this bird begins in the brisk and golden autumn. The sportsman following him needs an active step and a wondrous quick eye and hand to secure him. No bird that flies is oftener missed. He rarely lies to a dog. A careful pointer will show signs of game, and commence trailing him, for the scent is strong; but he bursts away well ahead of the dog, generally flying in a straight line. An experienced sportsman will take the shot, no matter how long, and carefully noting the line of flight, will flush him again, and again fire at him. After a few salutes of this kind,

he seeks to avoid the exposure by hiding. Then the sportsman, following close after his dog, keeping always ready for a shot, may see the dog halt sharp, pointing to a thicket of briers and cut brush, then recalling the runs which he had made before the previous points, will step forward slowly,—slowly,—with his head high in air and eyes intent; a pause,—his foot is up for another step, when the bird rushes out again, scattering the brush with his quick wings, and whirling off the saffron leaves from the white birch. Never mind the aim,—the gun comes up to the line of flight, the sharp report awakens the echoes of the hills, and the pride of the woodland falls to the ground. Brave old bird, he died in the prime of life! No base snare shall choke him; no horned owl or stealthy mink shall pick his bones; but, roasted before a hickory fire, he will be served hot as the second course to a gentle meal, and have his virtues told by hunters who honor his name and worth, as they tell stories of the chase, or carol snatches of Thoreau's songs in the autumn night.

"Shot of the wood from thy ambush low,
Bolt off the dry leaves flying;
With a whirring spring like an Indian bow,
Thou speedest when the year is dying;
And thy neat gray form darts whirling past,
So silent all as thou fliest fast,
Snapping a leaf from the copses red,—
Our native bird on the woodland bred.

"And thy whirring wings I hear,
When the colored ice is warming
The twigs of the forest sere;
When the northern wind, a-storming,
Draws cold as death round the Irish hut,
That lifts its blue smoke in the railway cut,
And the hardy chopper sits dreaming at home,
And thou and I are alone in the storm."

The spruce grouse, or Canada grouse, is smaller than the ruffed grouse, its length being about sixteen inches, and its full weight sixteen ounces. Its range seems to be north of the latitude of the Mohawk River, in the State of New York, and extending through all of Canada and to Baffin's Bay.



The color of the cock is dark brown or gray interspersed with black, each feather having three cross-bars of a still darker gray. On its breast is a large angular or crescent patch of black, the point of the angle coming up the neck. Its throat is black directly under the bill, and is mottled further down by little white feathers, and still larger white feathers patch its breast.* Its legs are feathered, but its toes are bare, as are all of this genus. The hen is quieter in color, mottled all over in red and brown. It has the habit of its race of making a drumming noise with its wings, but seems to do it by repeated blows on its own body, and sometimes makes this noise when in the air. Some authors note another bird, called Franklin grouse, which is a variety of this one. The tail feathers being carried out wide to the ends, and the upper and under tail coverts being tipped with white. These variations, when unaccompanied by any difference of structure or habits, seem to be of no importance to the ordinary reader or to the sportsman.

The spruce grouse makes its nest on the ground, generally sheltered by some low evergreen bush, and lays fifteen to twenty buff or fawn-colored eggs, spotted with brown. Often, when one is fishing from a canoe in some of the narrow brooks in Maine or Canada, a brood of these birds will be seen threading their way among the bushes or, if the weather is hot, coming to the water to drink, so gentle in their remoteness from man that they scarcely notice the passing boat. At times like these, they make use of a little piping cluck that is most gentle and familiar, by which the old bird calls the young ones of the flock to her whenever she finds any attractive food in the rotten wood or among the fallen mast. Again, they may be seen among the upper branches of the tallest spruce, picking the winter buds, and at their great elevation looking as small as snow-birds. When pursued, they take quickly to the trees, and seem to feel secure in their elevation, and are then easily shot. In the coldest winter, when the caribou hunter is making his camp in the evening forest, when the deep snow creaks under his snow-shoe, and the thermometer sinks to thirty degrees below zero in the still air, some

* All the male birds of this species which I have shot during the latter part of September, in the woods of north-western Maine, had around the eye a characteristic broad oval band of bare flesh of a bright deep orange-color. In the females this colored band is narrower, and borders only the upper half of the eye. — EDITOR.



MAKING THEMSELVES AT HOME.

of these graceful birds will come running over the snow, familiar in the desolation, and contented and secure in their winter home, proving how apt for their position in life God's creatures are everywhere made. Once, returning to our log hut after an absence of several days on an exploring tour, we peered through the opening that was left for the window, and saw a brood of these glossy birds pecking about the floor and foraging on the remains of our feast. They crept into the empty flour-barrel, and pried into the tin meat-cans, and one old cock flitted upon the table and perched on the edge of a tin pan. His weight upset the dish, which clattered upon the floor, when the gay foragers, scared by the din, whirled out of the open door like "a swarm of golden bees," taking refuge in the neighboring hemlocks. They were not disturbed by us, for such gentle spirits bring good luck to the hunter's camp. Like the little gray wood-mouse that comes out of the logs and gathers the evening crumbs, they lend a certain domestic charm to the lonely hut that makes the solitary woodsman feel he is not alone.

The pinnated grouse, or prairie-fowl, is in numbers and use the most conspicuous of the American grouse. Its range is over all the open prairie-land of the North American continent, extending even

to the Pacific, although the change of the climate there has produced some changes of plumage, which cause its identity to be doubted. It is a larger bird than the ruffed grouse, its flesh being dark, while that is of a white or pink color. Its plumage is light brown, nearly uniformly barred on the breast, and spotted on the back with a darker brown. Formerly it existed on the plains of Long Island, New Jersey, and Maryland, but ceaseless hunting has destroyed it in all States east of Indiana.

It makes a nest of grass in the open prairie, laying ten or twelve eggs of a light color, spotted with irregular brown spots, and hatches in June; and generally the young are seven-eighths grown by the fifteenth of August, when the laws of most of the Western States permit the shooting of them. In Illinois, Iowa, and Wisconsin it is not unusual for a sportsman to kill sixty in a day, at the opening of the season. In winter, when the snows compel them to come near the woods and the wheat-stacks for food, they are trapped in great numbers, packed in barrels, and sent to the cities of the Eastern States, and even to London. It is not unusual for shippers to send a hundred barrels of this game in a single consignment to New-York. It is this wholesale trapping and exportation which is exterminating the species. When the bird is young, it remains in its original covey, and when disturbed, scatters in the tall prairie-grass, and can then be flushed over the dog, one at a time, so that the sportsman is thus often able to secure the whole covey. Later, several coveys unite in a pack, and by frosty weather several small packs unite, forming a pack of fifty to a hundred birds. Then they keep on the wide range of the open prairie, and become wary and watchful, and cannot be approached. The hunter must be content to take an occasional long shot as the pack is flying over him from one point to another. In these flights the fowl sometimes continue in the air ten miles, and



FLUSHING A COVEY OF PINNATED GROUSE.



THE FIFTEENTH OF AUGUST ON THE PRAIRIE.

distance all pursuit. Still, there are now and then some late autumn days when the warm sunshine recalls the summer, and when, in the sheltered sloughs of the prairie, protected by low hills and rank grass, a covey will lie close, too indolent to fly away, and will rouse themselves one by one before the pointer. These are halcyon moments. The sportsman's nerves, braced by weeks of autumn shooting, are strong and steady, and every grouse that springs into the air falls with a thud to the ground, after the ringing shot. Every bird is a full-grown one, and the gillie-boy staggers under his load.

The true manner of shooting prairie-fowl is to drive over the prairie in a light wagon, letting the dogs range far and wide on either side. A well trained dog will range at times a half mile from the wagon, his bright colors and rapid motion rendering him conspicuous on the prairie. When he scents the birds he will come to a point so suddenly that at times his inertia, when attempting to halt, will swing him half around. He stands as if he saw a ghost. The wagon drives near to him, the other dogs coming up and backing him. The sportsmen then alight and take their shots. Rarely the whole covey is flushed together, and frequently the old birds lie until the last, and while the sportsman is loading his gun

will dash away, uttering their quick repeated cry of "Cluk-cluk-cluk-cluk," and looking back over their wings at the sportsman, who watches their flight and marks them down half a mile away. As one goes to retrieve the dead birds still another and another will rise, and it is only until one has been carefully over the field that he feels secure that all the birds are up. The driver in the meantime, from his wagon, has marked the several birds down. The game that is secured is placed in the wagon, and with renewed hearts the sportsmen push on after the fugitives.

A pointer dog is considered the best dog for this pursuit, as his endurance and speed are great and he stands the heat without needing water better than setters. And no one who has not tramped all day with game through the prairie-grass can appreciate the relief it is to have the wagon always at hand to carry the game and luncheon and also, at times, the weary sportsman.

Often prairie-fowl meet their fate by coming in contact with the telegraph wires, and the trackmen on the railroads constantly find them with broken necks lying along the track.

As the coyote or prairie-wolf has disappeared, prairie-fowl have greatly increased in numbers. This restless and hungry marauder destroys innumerable nests and sitting birds. The writer was once watching a coyote from behind a prairie-knoll and saw him creep to windward cautiously and then jump on some prey. On going to the spot the wolf fled, leaving the feathers of a prairie-hen and her broken eggs to mark his wastefulness.

If the public would enforce the laws against trapping the birds in winter, they would greatly increase. But it requires the extinction of a valuable bird to teach the average American the importance of



THE COYOTE HUNTING.

its preservation. The trapper and dealer care nothing for the sport. They look only at the present money profit and leave future generations to take care of themselves. The true sportsman shoots only as much as he can use, and takes a pride in the existence and security and abundance of the bird he admires.

The other great source of destruction to the prairie-fowl arises from a habit of the Western farmers burning most of the prairie land in the autumn, and reserving small patches to burn in the spring, so that fall grazing will grow on the spring burnings. All the grouse in a county finding the great expanse of the prairie burnt over will nest in these patches of brown unburnt grass. The farmer then burns this grass in June, destroying every nest therein. No persuasion can induce him to forego this habit, as the fall grass is of more pleasure to him than the birds. The only remedy is for those interested in the race of birds to go over the country late in the fall and burn off all these remaining patches, thus forcing the grouse to nest on the burned prairie.

The pinnated grouse has the power of inflating the two yellow sacks which he carries on the sides of his neck, and during the mating season the cocks are often seen strutting and swelling in mimic grandeur, with expanded wings and tail, and making a thrumming noise with their wings, striving to please by their grandiose ways. At these times they are pugnacious, and two cocks never meet without a battle. They flit up in the air several feet striking at each other with wings and feet until one yields the place of honor to the other and departs—a disappointed bird, to lead the life of a celibate.

One autumn day, watching for ducks while ensconced on a musk-rat house in the great Mendocio marsh, which extends back many miles from the Mississippi River opposite Clinton, I noticed some objects moving on the summit of a knoll. By careful watching I discovered they were prairie-fowl, and, moved by curiosity, carefully approached them. As I drew near I discovered fifteen prairie-fowl apparently dancing a minuet. They were scattered about on the short turf, twenty yards apart, nodding their heads at one another, and presently two would run out and perform the figure which in a country dance is known as "cross over and back to places," all the while uttering a soft note of "coo–cooe"—the last syllable being



A PRAIRIE MINUET.

much elongated. Then would follow "salute your partners" and "*dos à dos.*" This scene of merriment was sustained for half an hour and until a shot from a neighboring gun caused the birds to run into the tall cover of the reeds. The bright sunshine of autumn and the conspicuous group of native birds impressed the scene vividly on the spectator's mind. A neighboring farmer to whom the circumstance was mentioned said:

"Yes, them same birds skye around there mostly every day."

The other varieties of prairie grouse indulge in the same kind of amusement.

The pin-tail, or sharp-tail, grouse is a close connection of the prairie-fowl, but without the gular sac; and, like that bird, it inhabits the open prairie land, nesting in the same manner, feeding on the same food, and often found associating with him. Its size is the same, but its color much lighter, and instead of the dark-brown bars on its breast, it carries little spots of a V shape, of a light, ashy brown. Its name is derived from the two middle feathers in its tail extending beyond the others, thus forming a long, pointed tail.

It is claimed that there are two varieties of the sharp-tail grouse —one in the Arctic north, and one in the central territories of the

continent, each with a slight variation,—the northern one having a black instead of a brown-colored back. If this is so, the writer has never seen the Arctic variety. The beautifully marked one with which we are familiar is common in Kansas, Nebraska, and Dakota; and on the Platte River we have seen it rise, with its whirring flight and lighter and ashier hue, from among a pack of pinnated grouse. Its flesh is lighter in color than that of the prairie-fowl, and more delicate in flavor.

There is a curious habit of this bird; but whether connected with its mating instincts, or only with its love for social amusement, it is difficult to answer. It has a little ball-room all of its own, and, like that of the country girls of Italy, it is under the open sky. A circle of ground on the prairie is adopted, and by beating of wings and tramping it is cleared of grass for twenty feet around; and there, morning and evening, the party assembles and pirouettes and courtesies as in the olden time. By twos and fours they advance, and bow their heads, and drop their wings; then recede and advance again, and turn on their toes, swelling their feathers and clucking with gentle hilarity. Many cocks join in the dance, but there is no attempt at unseemly battle. It is gentleness all, and the hall is surrounded by rustling grass and golden asters. The hunters call such a spot, as they pass it, "chickens' stamping-ground." We have already noted the same habit in the prairie-fowl. The only difference between the two birds in this amusement seems to be that the prairie-fowl runs over a larger area of ground, usually selecting some bare knoll covered with scant, short grass.

The sharp-tail grouse is feathered not only to the toes, but to the first joint of the toes, as is the Rocky Mountain grouse; while the ruffed grouse is slightly feathered to the toes, and the pinnated grouse is scarcely feathered to the toes. The true ptarmigan wears abundant feathers down to his toe-nails.

As the miner rides over the bare plains that form the approaches to the Rocky Mountains, with the vivid sunshine reflected from barren earth and red hills, with the glare of noon blinking the eye, and the dust of the dry sage-bush, pulverized by the horse's tread, smarting the nostril, there suddenly flits out from the bush a large bird, looking at first glance like a bustard. It stands as high as a turkey-



THE GILLIE BOY.

hen, and after a short flight will light on the stony ground, and turn to watch the passer-by. This is the Cock-of-the-plains, or Sage-hen. Some learned folks have given it a curious Latin title; but as most sportsmen prefer shooting to studying Latin, they will best recognize the homely name the bird is known by in its own country. The color is a light ashy gray, marked by the overlapping feathers of a darker gray. It is the largest of the American grouse, being thirty inches in length, and is distinguishable in plumage by its pheasant-shaped tail of long, pointed feathers. These feathers are spiny and hard in texture, having the appearance of being worn off, and leaving the quill part projecting. This is noticeably so with the tail, the quill of the feather extending beyond the web. If the stranger follows the bird after lighting for the first time, it rises again and takes a free flight beyond some sheltering knoll. If it is

not pursued, it squats upon the ground or under some bush until the danger is past, its predominating color corresponding so much with the ground that it often escapes notice. When walking, it has a slow and hesitating march. Its location is over the whole of the great plains lying east of the Rocky Mountains, wherever the sage-bush or artemisia grows. This is its frequent food, and it gives a pungency to its white flesh which renders it distasteful even to the hungry trapper. It has the saffron-colored side-pouches on the neck, similar to the ruffed grouse, and its habits of swelling these glands and strutting and thrumming with its wings are similar to those of the prairie-hen. It builds its nest on the ground of the desert, giving but little care to its preparation, and lays from twelve to sixteen eggs, dark brown in color, and spotted with irregular chocolate spots, more abundant at the larger than the smaller end. How its nest ever escapes the ravages of the coyote, that jackal of the plains, is a wonder. If it were not for the coyote, the number of this grouse would be ten times what it is now. Its flight is that of all its family,—a succession of quick short beats, which at rising makes the rushing sound that so bothers the nervous sportsman, and then a long sail with extended wings, to be followed again by the five or six short beats of the wing. As it rises, it gives forth its note of "Cluck-cluck-cluck!" repeated very rapidly, like the common hen. No disappointment is greater to the inexperienced and hungry hunter than to bring down one of these noble birds and, after spending an hour in its cooking, to find that it tastes like tansy bitters, with the bitters left out. We once had a "poetical cuss," as the teamsters called him, in a hunting party in Wyoming Territory. He quoted with great emphasis, on first meeting this bird, Hogg's lines:

"Bird of the wilderness,
Blithesome and cumberless,
Gay be thy matin o'er moorland and lea!
Emblem of happiness,
Blest be thy dwelling-place,—
Oh, to abide in the desert with thee!"

We had sage-hen for supper that night. The next morning, when one rose before his horse while on the march, he was heard to call out:



GROUSE ON NEST. (FROM A PHOTOGRAPH FROM LIFE.)

"Git out, you quinine brute! You're only fit for a prescription!"

Yet, for all his astringency, we love to see the sage-hen on the sultry march, bursting out from the bracken, starting the jackass-rabbit from its form, and awakening the landscape with his free flight.

The dusky grouse is found in the Rocky Mountains and the various spurs of highlands that are connected therewith.

It is a marvelously graceful bird, often quite black, or blue-black, and flecked here and there with little pencilings of white feathers, looking as though crystals of new snow had fallen upon it. These seem to be the tips of white feathers just coming to the surface of the black. Sometimes the bird is dusky, or of a dark slate color, marked with white, and always bearing that distinguishing mark of the grouse family,—the bright-colored streak over the eye,—which, in this bird, is scarlet. Its tail is rounded, and ornamented with the band of a darker hue that most of the grouse family possess. It has the gular sac on the side of the neck, and its cry in the spring-time is like the blowing several times suddenly into an empty bottle.

The hunter pursuing game over the ridges of the Rocky Mountains and among the dead timber that the Indians kill by their annual fires, finds this bird flitting out of the young shoots and sitting on the low branches of the neighboring trees. Its little head turns from side to side as it examines the stranger,—a movement accompanied by the nod of the pigeon, rendering it very difficult to shoot off its head with a pistol, though sometimes it allows several shots to be taken before flying.

Its proper colors, its most graceful shape, and its apparent tameness rendered it exceedingly attractive. Its flesh is constantly in camp, and every hunter, as he comes in at night, will have one or two slung to his saddle, as its white flesh is greatly preferred to the continued diet of elk's meat and venison. It has the peculiarity noted in that of the black game of Scotland, of having two colors of flesh on its breast, one being darker than the other. The habit it has of flitting to the lower branches of the trees on the slightest noise being heard is explained by the presence of the ever-prowling coyote.

This bird inhabits all the mountain-lands to the Pacific Ocean. In the Cascade Mountains they are abundant, under the name of the blue grouse, and frequent the heavy pine or redwood timber. Another variety is spoken of as the Richardson grouse, varying only in a tail-marking. In the fall of the year, the blue grouse leaves the lower strata of vegetation, where it is liable to be buried in the snows, and where it has to dispute its occupancy with many stronger neighbors, and betakes itself to the upper plane of the pine-tree tops. There, two hundred feet or more from ground, it finds ample shelter in the dense, perpetual verdure, and unlimited supply of buds for food, and safety even from the eyes of man. No retreat could be so absolutely secure,—nothing but the lightning and the tempest can reach it; and its morning crow heralds the day while yet the trunk of the tree and the humbler birds that live near it are wrapped in darkness. When winter is passed, and little sprouts come forth out of the ground, the grouse descends to its old resorts and builds its nest, and shuffles in the sandy bank as it did the summer before. This is a true bird of the mountain, and has the resinous odor of the woods in its flesh. It reminds one of its noble congener of Scotland,—the black cock,—

and of all his wild ways and glossy plumage, and the long days on the heather, and of the moorlands at Dumfries, and of the old song:

"And if up a bonnie black cock should spring,
To whustle him down wi' a slug in his wing,
And strap him on to my lunsie string,
Right seldom would I fail."

May his mountain fastnesses protect him from extermination for future ages, so that other explorers may be charmed as we have been, amid sterility, weariness, and hunger, by his beauty of form and delicacy of flesh!

We have thus told our tale of the North American grouse. The distinctive features of the genus are the bare and bright-colored patch over the eye, a short, curved bill, with the nostril covered with feathers, and a hairy leg, with bare toes. Our story is not a book-story, or a compilation,—it is out of the head, it may be somewhat out of the heart. It does not claim to be learned, and its writer will not dispute about a feather; but all of the birds named are old friends, and he dare not caricature them.

There is another genus of this same *Tetraonidæ* family,—the genus *Lagopus*, or hair-foot. These have the toes, as well as the legs, covered with feathers. This genus includes, in North America, the ptarmigan, the white-tail ptarmigan, and an Arctic ptarmigan called the rock ptarmigan. Their habitat seems to be the whole Arctic zone. They form the chief delicacy of the Arctic explorer, and hang plentifully in the larders of the posts of the Hudson's Bay Fur Company. When the winter is severe, they come down into the Canadas; and one winter a hunting friend on the Saguenay—good luck to him!—sent us a barrelful. Such friends are above all price.

The white ptarmigan is all white, save the outer feather on each side of the tail, which outer feather is black. The white-tailed ptarmigan is as immaculate as snow, including all the tail-feathers. The remarkable feature of these birds is that they change the colors of their dress to suit the varying year, as does a fashionable lady, only the birds vary the style by dressing white in winter and brown in summer. This is one of those prudent plans of Dame Nature to preserve a race. On the spotless plains of winter, a brown bird would be a conspicuous object to every fox and snowy owl; so he is

draped in snowy white, and squats unnoticed on the drift. In the summer foliage his whiteness would allure each passing hawk, but the brown, mottled color of his summer dress matches well the bracken and the lichen, and he thus escapes observation. This same care Nature bestows on the snow-bird and the great northern hare, both of which frequent the snowy plains.

But a summer evening is not long enough to write the story of their lives. To obtain a technical knowledge of the varieties of grouse or ptarmigan, one may study Wilson, or Audubon, or that comprehensive work on ornithology, entitled "North American Birds, by Baird, Brewer, and Ridgway."

To appreciate the beauty and learn the ways and manners of the birds of which we are writing, one must love them, and with Agassiz, "wander away and away with Nature, the dear old nurse, who sang to him night and day the rhymes of the universe." One must watch these birds in their own homes—among the roughness of primeval nature and amid the aroma of the balsam and the keen air of the frosty October—hear them beat their muffled drums and challenge all comers to their tournaments; and it's a dull, cold heart that will not throb in unison with their defiance, and love the hill-side the better for their music.



BOB WHITE, THE GAME BIRD OF AMERICA.

By ALFRED M. MAYER.

OF all the game birds of America, none is so endeared to the lover of country life or better appreciated by the sportsman than little Bob White. He may be found from southern Maine and Canada to the Gulf, and from the Atlantic to the high central plains, and he is known by various names. In the North and East, he is called Quail; in the South and West, he is Partridge; while everywhere he is known as Bob White. Let us then call him as he calls himself, and we will not be berated for our ignorance of natural history. In fact, he is neither quail nor partridge; but to our mind he seems more akin to the latter than to the former of his European cousins. The quail of Europe is a smaller and more dumpy bird than our little friend. His flesh is dark and loaded with fat. His plumage is dull and his aspect plebeian. He does not form into coveys, but flocks at the periods of his migrations, when he flies at night, and in the company of countless numbers, during the month of April crosses the Mediterranean to the European shores and islands, returning to Africa in the autumn.*

* "The quails assemble at the approach of autumn, to cross the Black Sea over to the southern coast. The order of this emigration is invariable. Toward the end of August the quails, in a body, choose one of those fine days when the wind, blowing from the north at sunset, promises them a fine night; they take their departure about seven in the evening, and finish a journey of fifty leagues by break of day,—a wonderful distance for a short-winged bird, and one that is generally fat and sluggish of flight.

"Such prodigious quantities have appeared on the western coasts of the kingdom of Naples, in the vicinity of Nettuno, that *one hundred thousand* have in one day been taken within the space of four or five miles."—*Daniel's "Rural Sports."*

He is a polygamous, pugnacious, selfish little Arab, and lacks entirely that gallant bearing and affectionate nature which are marked characteristics of the American bird. A wretched husband, he abandons his wives and young to their fate at the waning of the honeymoon; and his selfish manners are inherited by his chicks, who "are hardly full grown when they separate, or, if kept together, fight obstinately, and their quarrels are terminated only by their mutual destruction." It belies both the appearance and character of Bob White to call him after such a mean-looking, disreputable bird as the European quail.

The common European gray partridge differs somewhat in form from our bird, which in this particular resembles more closely the red-legged partridge of Europe; but what is said of the habits of Bob White applies equally well to the European partridge. The latter weighs twice as much as Bob White, but he has not Bob's sturdy, rapid, and often long-continued flight. Like our bird, his flesh is white; he forms into coveys; is monogamous, and keeps with his wife and brood till the following spring. He is not migratory or nocturnal in his habits. His wings are similar in form to those of our bird, having the third quill-feather the longest, which is a characteristic of the partridges, and distinguishes them from the quails, which have the first quill-feather the longest.

It is true that Bob White is sometimes partly migratory in his habits. It is said that he has "a running season" in October, when, joining a pack, he leaves the region of his birth and travels on foot in a southerly and easterly direction till he reaches the borders of streams and bays, where he may remain till November, when he returns to his former haunts. During his travels it would be useless to hunt him, for he then runs with great rapidity before the dog, and will not take wing.

The European partridge and Bob White differ in their call-notes and in their longevity. Daniel, in his superb "Rural Sports," London, 1812, states: "It is said, the partridge, if unmolested, lives from fifteen to seventeen years; others dispute this computation, and maintain that they live seven years, and give over laying in the sixth, and are in full vigor when two years old." Dr. Elisha T. Lewis, in his "American Sportsman," Philadelphia, 1857, says that the average duration of Bob White's life is three to five years; but



EUROPEAN GRAY PARTRIDGES (PERDIX CINEREA), MALE AND FEMALE.

DRAWN BY JAMES C. BEARD.



"BOB WHITE!"

neither of these authors states how these facts were ascertained. Our distinguished ornithologist, Dr. Coues, classes Bob White among the partridges, and says:

"Our partridges [viz., Bob White, the Mountain, Valley, and Massena quails, etc.] may be distinguished among American *Gallinæ* by the foregoing characters, but not from those of the Old World; and it is highly improbable that, as a group, they are separable from all the forms of the latter by any decided peculiarities. I find that the principal supposed character, namely, a toothing of the under mandible, is very faintly indicated in some forms, and entirely wanting in others. Pending final issue, however, it is expedient to recognize the group, so strictly limited geographically, if not otherwise. * * * In habits, they agree more or less completely with the well-known Bob White: head completely feathered, and usually crested, the crest frequently assuming a remarkable shape; nasal fosse not filled with feathers, the nostrils covered with a naked scale, tarsi and toes naked, the latter scarcely or not fringed."

If, however, many of our friends should persist—as they certainly will—in calling Bob White a quail, then they should call a brood of these birds *a bevy;* while *a covey* should designate a brood, if they call him a Virginia partridge. The plumage differs so much with latitude that some naturalists have made out three species—the



WHITE BOB WHITE. (FROM THE COLLECTION OF ALFRED M. MAYER.)

Ortyx Virginianus, the *O. Floridanus*, and the *O. Texanus*. The male of the *Floridanus* is about the size of the female *Virginianus*. Its bill is longer and jet black; its colors are darker and its black markings are heavier. The *Texanus* is of the size of the *Floridanus;* the colors are paler, the prevailing shade being rather gray than brown; upper part much variegated with tawny. Sometimes Bob White dons a coat which is nearly white. One of these colorless birds is shown in the above engraving. He was shot in the month of November, by Mr. Charles Hallock, near Berlin, in Worcester County, Maryland.

If, after a day of successful shooting over a considerable area, the sportsman will count the number of cock and hen birds which have fallen to his aim, he will find the former always outnumbering the latter. The exact ratio I do not know. I have but once separated

them; then, in a bag of forty, I found twenty-four cocks to sixteen hens. According to the European naturalist, Ray, the European partridge hatches one-third more males than females.

The average weight of Bob White varies considerably with the nature of his feeding-ground, the weather preceding the time when he is shot, and the age of the bird. Probably six and three-quarter ounces is a fair average weight. In Southern Maryland, I have shot a few cock-birds which weighed eight ounces and one-quarter, and one even as high in weight as eight ounces and three-quarters. Fifty birds shot in the middle of North Carolina, last December, averaged seven ounces. Those birds were cocks and hens, old and young, just as they came to bag in the field. Mr. Frank Schley says: "I have often killed a bag of birds along the Monocacy and Potomac bottoms in Maryland, in the month of December, that would average eight ounces." Dr. Lewis, in his "American Sportsman," gives a record of ten braces of birds shot in the neighborhood of Mount Holly, New Jersey, that averaged eight ounces.

While the woodcock and Wilson's snipe are fated to disappear as civilization robs them of their restricted feeding-grounds, Bob White, if protected by the enforcement of judicious game laws, will thrive in the midst of cultivated lands, and will continue to test the gamecraft and marksmanship of future generations. He is destined to remain the game bird of America, and he is worthy of it; for there is none more impetuous in his flight, none that has such extended range in his feeding-grounds and coverts, none that demands of the gunner more knowledge of his habits in order to find him, and none that tests so well the training of a dog and the eye and nerve of the sportsman. We should be thankful that he, with the black bass, will be spared in the relentless action of that artificial selection which is slowly but surely taking from us the woodcock, the snipe, the grouse, and the wild trout.

Unlike the grouse and the European quail, our little American is a faithful husband and devoted father. To find Bob in Mormon practices is rare. Should he, however, discover that his gallant bearing and spruce attire have made him doubly beloved, he will show impartial devotion to his two spouses. From a fence-rail overhead, with his two wives on their nests, not two feet apart, he will gladden both their little hearts with his love-song.

But this gallant and affectionate bird is naturally a monogamist. He selects his mate and makes his courtship in the spring, soon after the snow and frost have gone, when the willows have turned yellow, while the frogs are piping in the marsh and the Wilson's snipe is drumming above the meadows. If the wintry storm should come back, the mates will re-assemble in a covey, and keep each other warm o' nights, and huddle on the sunny slopes during the day.

In the month of May they build their simple nest, formed of a slight depression in the ground, lined with dried leaves and soft grasses. This nest may be found under a tussock of grass, beneath a small bush, in the brier-grown corner of a worm-fence, at the foot of an old stump, alongside a log, or often in the open fields of wheat or clover. The nest is sometimes closed above with stubble mingled with the grass tussock or briers, and provided with a side entrance; but the nest is as often found open above as closed.

In this nest the hen-bird lays from one dozen to two dozen eggs of a pure, brilliant white. While the hen is laying, and during her time of nesting, the cock is the happiest of husbands. Filled with joy and pride, he sits on the low bough of a neighboring tree, or perches on the fence-rail quite near his spouse, whom he never wearies of telling that he is "Bob White—your Bob White," in such a brilliant, happy voice that the farmer stops his work and the children leave their play to listen to him, and they are happier for having heard him.



BOB WHITE EGG (FULL SIZE). (FROM THE COLLECTION OF A. B. BAILEY.)

In from three to four weeks the little downy young leave the egg, and even with pieces of egg-shell yet sticking on their backs they go off with their parents to be taught to search for food. They feed on the seeds of various grasses, weeds, and cereals, and on berries; and they return a hundred-fold the bounty of their landlord, by destroying for his benefit not only countless numbers of destructive insects, but quantities of weed-seed, one to two gills of which the adult birds can stow away in their little crops during a day's feeding.

If rain should come on, or the cold wind blow, the mother calls her younglings under her wings, where they nestle safe from the chilling storm. When night comes on, she and her spouse take their



CALIFORNIA VALLEY PARTRIDGE OR QUAIL. (LOPHORTYX CALIFORNICUS.)

little ones to some place removed from the thicket, where prowl the fox and the weasel. Soon after being hatched, the young, in running, assist themselves with their tiny wings, and when two weeks old they take wing with a flutter that is very amusing to those familiar with the startling whir of the old birds. When too large to gather under the mother, they take their flight at night-fall from the stubble or grain-field where they have been feeding, and thus, breaking the scent, drop down in a compact cloud into some open space under a bush or tussock, and cozily huddling up to one another, form a little circle with their heads outward. Thus nestled, they see on all sides, and can spring at a moment from their bed to evade any foe that may steal on them in the night or at the early dawn. If the

ground be covered with snow or hoar frost, or the weather be wet or blustering, they may remain huddled together all day, or may not venture to feed till late in the forenoon. But if they are greeted with the sunrise and good weather, they cheep a good-morning to one another in soft, cheerful voices, and go at once to their feeding-grounds, where they regale themselves on the wheat of the stubbles, the buckwheat, the seeds of grasses, and the rag-weed, and on the berries of the haw, the gum, and the chicken-grape. About ten or eleven o'clock they retire to the sunny side of a covert, and they do not venture forth again till three or four in the afternoon, when they again seek their food till sundown and bed-time.

In October and November, the sportsman often "springs" coveys containing birds too small to be shot; sometimes half the covey will be in this condition, the other half full-grown birds. This fact may be accounted for thus: The eggs and the young are often destroyed by the wet and cold of the early summer, or by beasts and birds of prey. If this calamity should overtake them, the hen again goes to laying, and this second brood is retarded by the time lost between the first and second nestings. When birds of two sizes are found in the same covey, it seems to show that the parents have raised two broods; and this, I think, happens oftener to the south than to the north of the James River,—the summer of our middle and northern States being generally too short for the raising of two broods. Baird says: "They have two broods in a season, the second in August"; while Audubon states that "in Texas, the Floridas, and as far eastward as the neighborhood of Charleston, in South Carolina, it breeds twice in the year, first in May, and again in September."

The cock-bird shares with the hen the duties and restraints of incubation. If his spouse should desire another brood, he will take charge of the half-grown young while she makes her second nesting. When the second brood appears, it runs with the first, and they form together one happy family, and remain with their parents till the following spring, in the pairing season, when the old family ties are severed.

The devotion of the parents to their unfledged young, and the real affection which the members of a family have for one another up to the time of their separation in the spring, have been so touchingly described by two of the most gifted of our writers on field

sports, that I must here quote them; especially as the writings of W. P. Hawes ("J. Cypress, Jr.") are now rarely met with. He says:

"If you would see the purest, the sincerest, the most affecting piety of a parent's love, startle a family of young quails and watch the conduct of the mother. She will not leave you. No, not she. But she will fall at your feet, uttering a noise which none but a distressed mother can make, and she will run, and flutter, and seem to try to be caught, and cheat your outstretched hand, and affect to be wing-broken and wounded, and yet have just strength to tumble along, until she has drawn you, fatigued, a safe distance from her threatened children and the hopes of her young heart; and then she will mount, whirring with glad strength, and away through the maze of trees you had not seen before, like a close-shot bullet, fly to her skulking infants. Listen, now! Do you hear those three half-plaintive notes, quickly and clearly poured out? She is calling the boys and girls together. She sings not now 'Bob White!' nor 'Ah! Bob White!' That is her husband's love-call, or his trumpet-blast of defiance. But she calls sweetly and softly for her lost children. Hear them 'Peep! peep! peep!' at the welcome voice of their mother's love! They are coming together. Soon the whole family will meet again. It is a foul sin to disturb them; but retread your devious way, and let her hear your coming footsteps breaking down the briers as you renew the danger. She is quiet. Not a word is passed between the fearful fugitives. Now, if you have the heart to do it, lie low, keep still, and imitate the call of the hen-quail. Oh, mother, mother! How your heart would die if you could witness the deception! The little ones raise up their trembling heads and catch comfort and imagined safety from the sound. 'Peep! peep!' They are coming to you, straining their little eyes and clustering together, and, answering, seem to say: 'Where is she? Mother! mother! We are here!'"

The following is by Henry William Herbert ("Frank Forrester"):

"Unlike the young broods of the woodcock, which are mute, save the twitter with which they rise, the bevies of quail appear to be attached to each other by tender affection. If dispersed by accidental causes, either in the pursuit of their food, or from being flushed by some casual intruder, so soon as their first alarm has passed over, they begin calling to each other with a small, plaintive note, quite different from the amorous whistle of the male bird and from their merry, day-break cheeping, and each one running toward the sound, and repeating it at intervals, they soon collect themselves together into one happy little family.

"If, however, the ruthless sportsman has been among them with his well-trained setter and unerring gun, so that death has sorely thinned their numbers, they will protract their little call for their lost comrades even to night-fall; and in such cases—I know not if it be fancy on my part—there has often seemed to me to be an unusual degree of melancholy in their wailing whistle.

"Once this struck me especially. I had found a small bevy of thirteen birds in an orchard, close to the house in which I was passing a portion of the autumn, and in a very few minutes killed twelve of them, for they lay hard in the tedded clover, and it

was perfectly open shooting. The thirteenth and last bird, rising with two others which I killed right and left, flew but a short distance and dropped among some sumacs in the corner of a rail fence. I could have shot him certainly enough, but some undefined feeling induced me to call my dog to heel, and spare his little life; yet afterward I almost regretted what I certainly intended at the time for mercy. For day after day, so long as I remained in the country, I heard his sad call from morn till dewy eve, crying for his departed friends, and full, apparently, of memory, which is, alas! but too often another name for sorrow.

"It is a singular proof how strong is the passion for the chase and the love of pursuit implanted by nature in the heart of man, that however much, when not influenced by the direct heat of sport, we deprecate the killing of these little birds and pity the individual sufferers, the moment the dog points and the bevy springs, or the propitious morning promises good sport, all the compunction is forgotten in the eagerness and emulation which are natural to our race."

Bob White schools the wing-shot as severely as the wily trout tries the angler. Like the trout, he has habits which we must be acquainted with in order to find him, and when found we ourselves may be found—wanting. Am I not a convicted boaster? Was it not only yesterday when I to myself said proudly "I'm a crack-shot"?

"Deeply hast sunk the lesson thou hast given,
And shall not soon depart."

It requires much experience to divine the whereabouts of Bob White. If the weather be fair, start early, for the birds will be on their feeding-grounds at sunrise, and will be found in the fields of stubble, or in the midst of the rag-weed, and along the brier-fringed ditches; and do not forget the field of buckwheat, for they are especially fond of it. About ten or eleven they will cease feeding, and will seek the sunny side of some covert near a stream, where they will quench their thirst after their morning meal. Here they will dust and preen themselves, and take their noonday siesta. The birds will generally remain here till three or four hours after mid-day, and, closely huddled as they are, they are difficult for the dog to find.

The sportsman, if wise, will now follow the example of the birds, and seeking the quiet of some sheltered sunny nook, will take his lunch and rest himself and his dogs. How well we remember that pleasant spring-side, with the dogs stretched before us to catch the warm rays of the sun, their eyes furtively glancing at us, waiting for



BOB WHITE AND EUROPEAN QUAIL.

their share of the lunch; the fragrant cigar, with pleasant jokes at our bad shots and untimely tumble, the generous admiration of our companions' skill, and talk about the wonderful working of the dogs. "What a picture! When that dog suddenly stopped at the end of his bound over that hillock, and with a hare in his mouth backed the Laverack bitch drawing on to a covey which she found just as he was retrieving!" "Yes! and don't you remember, on t'other side of those woods, when she froze to the top of that stone fence when, in the act of leaping it, she winded a covey not twenty feet off on the other side?"* "Yes, good dogs! you have deserved well of us!" "So here's a glass of sherry to their long lives in happy hunting-grounds, and success to the day!" and we are off on a tramp of a half-dozen miles, which will bring to bag another score of birds and take us to the blazing hickory and bountiful country dinner of our cheery host.

If the weather is very dry, do not seek the birds on the uplands, for Bob White, though no hydropathist, likes the vicinity of water. But if your hunt occurs after a rainy spell, go to the upland stubble-fields, and work your dogs along the border of the driest and sunniest of the coverts.

* Two real incidents which happened under the eye of the author.



MRS. BOB WHITE AND FAMILY.

If it is windy and cold, the birds will be found in covert along the sunny lee slopes of the valleys, in the tall rag-weed and briers of the hollows, and on the sunny borders of the woods and hedge-rows. They will not now lie well to the dog, and when flushed will go like bullets into the deepest thickets. Should you hope to prevent this by getting them in between you and the dogs, you may often be mistaken, for in all likelihood they will spring over your head like sparks from under a blacksmith's hammer. The shooting is now difficult, for you will have to turn rapidly on your heel as the bird passes over you, and drop your aim just *under* him while he is only momentarily in sight.

If you had a fair day yesterday, but after a long spell of wet weather, and you returned home last night in a clear, cold, quiet air, you may expect to see the sunshine of to-morrow sparkling in the hoar-frost which covers the ground and all the herbage. Tarry at home till the sun has nearly melted the ice off the meadows, for you

will get nothing but wet legs by tramping the fields while the ground is iced and while the birds are yet huddled and have not spread their scent.

When the dogs are seeking the coveys, let them range widely. When they stand the covey, do not exhaust yourself with haste in reaching them, but approach leisurely and quietly. When the covey springs be very quick, but very, *very* steady, and do not fire till you are sure of your aim. Remember that it is your left arm and wrist that direct your gun; so grasp it well forward on the fore-end, and not near the breech, as some do. You will thus be able to give your gun that quick and firm motion which is indispensable to skill in "snap-shooting"; and all shooting at Bob White is of that character.

If it is your first shot of the season, and you are not gifted with a very steady nerve, you will do well to charge your gun with but one cartridge. By doing so, it is probable that a bird will drop to your first shot. If you had had two shots, you might have been too anxious for two birds, and thus have lost both. After two or three successes with a single barrel, try "a double" over the next point.

Always flush the birds yourself, for a dog "hied on" to flush may do so of his own accord when you are out of gunshot. At the springing of the covey, the dog must "down charge," or "drop to shot," and in either case hold his charge till ordered to "hold up" or to "seek dead." If he "break shot," he will often cause you great vexation in the loss of shots by his flushing birds which did not spring with their fellows, but which now get up in rapid succession, and before you have had time to reload. But a good retriever has his greatest pleasure in fetching a dead bird, and the intense satisfaction this act gives to him often causes him to lose his head and rush in on the report of the gun. The dropping to shot and retaining charge is one of the prime requisites in a dog, and is as difficult to teach a good retriever as it is essential to the true enjoyment of sport.

If the dog is unsteady, and apt to "break shot," do not load if you have fired only one barrel, for, in so doing, other birds may rise just as you have opened your gun or are handling a cartridge.

After the covey has been scattered, give your dog but little range. Keep your eye well on him as you approach the ground where you or your gillie has marked the birds. Be ready, if he be rash when



STEADY, THERE! TO-HO!

he "winds" the birds, to chide him, in a voice just sufficient to be heard. *Steady, there! To-ho!*

Above all things, do not get excited and gain in voice as you lose in temper. Take it leisurely, be quiet and cool, if you would enjoy the sport and kill cleanly. By all means, train your dog, if possible, to hunt without shouting to him. A short, quick whistle should call his attention. Then give him the order he waits for by waves of the hand: forward for "on"; a wave to the right or left, as you may desire him to quarter; while the upraised arm, with the palm of your hand toward him, should bring to "to-ho." Or, two short whistles may be often better for the same order, while one much prolonged should bring him to "heel." A dog that with head well up winds his birds and is stanch on a covey, that will drop to shot and retain his charge till ordered to retrieve, and will receive and obey your orders from the whistle and the motions of your arm and hand, is a dog indeed.

After the covey has been flushed and shot at and the birds have been well scattered, the real enjoyment in Bob White shooting

begins. One may now have single and double shots over all kinds of ground and at birds taking every conceivable direction of flight. But often, the best of markers will be baffled in finding the birds whose flight he has carefully noted after the springing of the covey. The following incident is typical of the experience of all sportsmen: A large covey was once flushed and shot at, three birds falling to our fire. My friend and I watched the other birds as they flew across a swale, where we sprung them, and we saw them sail with extended wings over a large field on the valley slope, into which they dropped after a few flutters of their wings. On our approach to the field, the dogs quartered it, but they did not come to a stand. One dog flushed a bird on which he came suddenly, and he at once "charged." We found the dogs useless, and calling them to "heel," we walked slowly into the sedge. When we were about in the center of the field, the birds began to rise successively and singly in all directions—in front, on our side, and sometimes behind us, giving us delightful shots. Similar experiences recurring so often have made some sportsmen suppose that Bob White has a voluntary power of retaining his scent, and thus in time of danger eludes the dogs. But this well-known occurrence can be explained otherwise. Often when the frightened birds alight, they do not run, but instantly crouch with their wings closely pressed against their bodies, so as to squeeze themselves into the smallest compass. This act, no doubt, causes a diminution in the emission of their effluvia. But if the birds have run after alighting, the dogs will surely find them, provided they do not run rapidly and to great distances, in which case the dogs are baffled by the multiplicity of scents; and especially will this be so if the dog gets on the trail of a bird which doubles like a hare on its track.

This baffling of a dog on ground containing a recently scattered covey shows that time should be allowed for the birds to recover from their confusion and begin to run together before you "hie on" the dogs to find them. If you are familiar with the country, and can remember the landmarks, the proper method is to flush two or three coveys, and then begin to hunt the scattered birds of the respective coveys in the order in which you flushed them.

To become a successful shot at Bob White, the sportsman should bear in mind that Bob, immediately after he has sprung, flies with a velocity which probably exceeds that of any other bird; and also that,

unless fairly hit, he can carry off a number of pellets. When a covey springs, it rises at a considerable angle with the ground. Hence, in shooting at a bird in a flushed covey, the sportsman of unsteady nerve and sluggish muscles is apt to undershoot, the bird rising with such velocity that by the time the gunner has brought his gun into position the bird has passed above his line of sight. As a rule, I think that about one second generally elapses between the instant of springing of the bird and the moment of fire. This interval gives the bird time to gain a moderately horizontal line of flight, and allows the sportsman to get a fair aim.

In shooting at an incoming bird, let him be out of sight, and just below the rib of your gun at the moment of firing. At a bird going overhead, wait till he has passed well over; then shoot under him. At straightaway shots, hold a little high, so that you just catch a glimpse of the bird over your barrels.

In shooting at cross shots, it should be understood that the velocity of an ounce of No. 8 shot driven with three drams of powder is near to 900 feet per second. In that second a Bob White, if under full headway, will go 88 feet, if we estimate the velocity of his flight so low as only a mile a minute. If he is flying directly across your line of sight and thirty yards off, the shot will take one-tenth of a second to reach that distance, and in one-tenth of a second the bird has gone over eight and eight-tenths feet. So, if we should fire a snap-shot directly at a cross-flying bird thirty yards distant, the center of the cloud of shot would fall about nine feet behind him, and he would pass by unscathed. To kill him "clean," you must hold nine feet ahead of him. To some sportsmen nine feet may seem a great distance to "hold ahead" on a cross-flying bird thirty yards away, but not to those who have noticed attentively the relations of the line of their aim to the position of the bird *at the very moment they hear the report of their gun.* Also, estimations of distances in the air beside a small and quickly moving object are very unreliable, and often when the sportsman thinks he has fired only one foot ahead of a bird he has really held ahead three feet. Let some one suspend horizontally in the air an unfamiliar object that must be distant from fence-rails and other things whose dimensions you know, and then guess its length. You will, after a few trials, be satisfied that the estimation of actual lengths at thirty yards is very fallacious.

Bob White is a tough and hardy little fellow, and the true sportsman, always a humane man, will remember this and endeavor to kill him outright. Often a bird will fly two or three hundred yards, though mortally wounded. It is the duty of all sportsmen to watch carefully the flight of the birds he has shot at, and his experience of the nature of their flight will tell him if the bird has been struck. If he concludes that he has been, then it is his bounden duty to bring that bird to bag, and that right quickly.

The extraordinary vitality of this vigorous bird was once forcibly impressed on me. A covey was flushed at about one hundred yards from the edge of a wood. Only a few of the birds flew to the woods. One of them, going at a tremendous velocity, crossed my position at a distance of about forty yards. Holding my gun at what I judged was the proper distance ahead of him, I fired. This was the only shot fired at the birds making for the wood.

"Sam," said I to our negro gillie, "I think I hit that bird."

"No, sah," said Sam; "I tink not, sah. He's a-gwine to whah he forgit he lef' suffin, sah!"

Sam is a good marker, and has carefully watched the flight of hundreds of birds shot at. Yet I could not entirely satisfy myself that the bird was not fairly hit, though he kept straight on in his vigorous flight. A sprained foot prevented rapid walking, and my companion entered the wood, with the dogs, before me. As I struck the edge of the woods I heard the report of his gun, and, after proceeding about one hundred yards, I heard a second shot, and in another instant a bird tumbled through the air and fell about a dozen feet in advance of me. I called out:

"I have them both!"

"Both what?" said he. "I only shot one bird, and the other flew away from your direction and I missed him clean."

The bird my friend shot lay with his head toward me; the other, a large cock, lay on his back with his bill pointing toward the other bird, and not more than a foot from him. Both birds were warm. The large cock was the one I had fired at. He was struck fairly in the head and chest, and yet he had pitched into the woods and gone altogether nearly two hundred yards before he succumbed to his death-wounds.

Rules for shooting are of value, and directions founded on theory may serve to inform the beginner why he misses, and

thus show him the way to improvement in his marksmanship; but no matter how well we may know *how* the shooting should be done, *to do it* is an art which can be attained only by the assiduous cultivation and development of certain peculiar natural gifts.

A beginner who, out of three shots, can bring one Bob White to bag, need not be discouraged or ashamed; with sufficient practice, he may one day kill one out of two birds fired at. The sportsman who does not select his shots (and no man really a sportsman *can* do that), but takes his chances in the open and in covert on all birds which offer a probability of success to his skill, and who, the season through, brings to his bag three out of five birds fired at, is an accomplished sportsman. If he can make three successful shots out of four, he is a phenomenal marksman.



EUROPEAN RED-LEGGED PARTRIDGES. (CACCABIS RUFA.)

Last season, I shot with the best wing-shot I ever hunted with. At my request, this gentleman, Mr. H. K. B. Davis, of Philadelphia, has written for me the following statement, which, coming from one who has had such unusual opportunities in hunting Bob White, in North Carolina, cannot fail to be of interest to all sportsmen:

"I find, on referring to my record containing the number of coveys found and the number of birds killed, that the average is but little over three birds brought to bag

from each covey flushed. When it is remembered that the usual number of birds found in a covey runs from ten to eighteen, it will give some idea of the difficulties to be overcome, and the large proportion of birds that escape even with good shooting, as the same record shows that seventy-three out of every hundred birds shot at were brought to bag. This record, extending over four years and running up into the thousands of birds killed, gives very reliable data to base calculations upon.

"The dogs I hunted with I have every reason to believe are above the average in speed, endurance, and scenting powers; so there is only one conclusion to arrive at, and that is that these birds are exceedingly difficult both to find and to kill.

"There are many opinions as to the proper method of shooting on the wing. Some hold that 'snap-shooting' is the only way to shoot successfully. Snap-shooting is generally understood to consist in putting the gun to the shoulder and firing the instant it is in position; making the allowance to the right, left, under, or above, as the case may require, before raising the gun; just as you point your finger, instinctively, to any object without having to sight along it. Others are just as sure that no one ever shot decently unless he followed the bird with the sight on the gun and covered it before firing. Some, again, insist that you must swing your gun along with the course of the bird after pulling the trigger. In my opinion, every one who has shot very much acquires a style peculiar to himself, and depending on his temperament and the kinds of birds he has had the most practice on.

"It may be well to give a few hints as to the necessary allowance to be made in taking aim at a bird flying so rapidly as Bob White. The most difficult shot is a bird coming directly toward you, and flying about twenty feet above the ground. I have been quite successful in this shot, by holding directly at the bird until he is within range, and then, just as I touch the trigger, I raise the muzzle of the gun about six inches. I would only advise trying this shot where there is more than one bird, and you want to use the second barrel. When there is only one incoming bird, wait until he passes over you, and then by shooting under him, more or less, according to the speed and elevation at which he is flying, you will be pretty sure to kill.

"In cross shots, at thirty yards and over, hold above the line of flight and from six to nine feet ahead of the bird. This may seem entirely too much, but I have frequently shot Bob White when flying parallel to a rail-fence, when I aimed the full length of the rail ahead of him, this being nearly twelve feet."

The shooting of Bob White demands such quick action in handling the gun, and such long tramps to discover his retreats, that I would advise light guns for his pursuit. A pound more in weight will be felt in the afternoon of a long day's hunt, and the rapidity and ease with which a light and short gun can be handled makes it very efficient in snap-shooting in covert. A twelve-gauge seven-pound gun, of twenty-eight-inch barrels, carrying one ounce of No. 8 shot and three drams of powder, or a sixteen-guage of six pound's weight and twenty-six-inch barrels, charged with seven-eighths of an ounce of shot and two and three-quarter drams of powder, is to

my liking in this most enjoyable of field sports; in which occupation may next season find you, my sportsman reader, who, though now weary and city-worn, will then forget your uncertain triumphs and petty vexations, when,

> "Full of the expected sport, your heart beats high
> As, with impatient steps, you haste to reach
> The stubbles, where the scattered grain affords
> A sweet repast to the yet heedless game.
> Near yonder hedge-row, where high grass and ferns
> The secret hollow shade, your pointers stand.
> How beautiful they look! With outstretched tails,
> With heads immovable and eyes fast fixed;
> One fore-leg raised and bent, the other firm,
> Advanced forward, presses on the ground!"



THE AMERICAN WOODCOCK.

By GEORGE BIRD GRINNELL, Ph. D.

THERE is a little russet-coated bird, dear to the heart of every sportsman, whose name is *Philohela minor*. He is found in Canada and in Florida, in Maine and in Kansas, but the high, dry plains of the Rocky Mountain region limit the extension of his range westward, for he is a bird that loves moisture and cool, dark thickets.

The woodcock is not often seen, and is quite contented to be overlooked. He has no brilliant song to catch the ear, no gaudy plumes to attract the eye, nor does he perform graceful evolutions high in air in the broad glare of day. He is truly a modest fowl, and, except at night, or during the twilight of morning or evening, he does not willingly venture into situations where he can be viewed by the casual wanderer through field or wood. One who desires to make his acquaintance must penetrate into the depths of the most tangled swamps to find him at home. Even here, during the day, he is usually half asleep. Not so drowsy, however, as to be unaware of the approach of an intruder. The soft rustling of the leaves, the occasional snapping of a dry twig, and the sound of the heavy foot-fall rouse him from his doze or his day-dream. He moves sideways beneath the spreading leaves of a tuft of skunk-cabbage and, with head turned on one side and great eyes spread to their widest, watches for the approaching form. Once in a while something may cause him to take the alarm, and dart away before it is within sight; but usually he lies close,—and when he rises, it is near at hand. He springs from the ground, uttering a shrill, twittering whistle, and twists about in his upward flight to dodge the branches which spread

in a net-work above him, until he has topped the undergrowth, and then darts off in a straight line for fifty or a hundred yards, to plunge once more into his beloved cover.

In some parts of Canada the woodcock is known as a "bog-sucker," while in the sea-board counties of Virginia he is a "night partridge" or a "pewee," and again, in portions of North Carolina, a "night peck."

As compared with his European cousin of the same name, the American woodcock is a small bird, weighing only from five to nine ounces. He is eleven or twelve inches in length, and of this the bill occupies from two and one-half to three inches. The plumage below is rich russet-brown, paling, on the upper breast, sides of the neck, and forehead, to ashen-gray. The crown is black with two or three cross-lines of tawny, and the back is curiously mottled with tawny, ash-gray and black, the latter predominating. The tail feathers are black, barred with tawny, their tips smoky-gray on the upper side and snow-white beneath. The legs and feet are pale flesh-color, the bill dark horn-color at the tip, becoming paler at the base, and the large, soft, humid eyes are brown.

The group of birds to which the woodcock and his near relative, the so-called "English" snipe belong, have a number of curious anatomical features, which have a direct relation to their mode of life. In most of the species the eye is very large, and placed high up and far back on the head, and the external opening of the ear is directly beneath, instead of behind it; the brain is tilted up, so to speak, and hence its base looks forward, instead of downward, as is usually the case with birds. The bill is soft and swollen at the tip, and is abundantly supplied with nerves, thus becoming a very delicate organ of touch. The birds are nocturnal or crepuscular in habit, and secure their food by probing and feeling for it in the soft ground. But they do not always, even if their brains are one quarter turned round, fall an easy prey to their human enemies.

The woodcock is almost the first of our migrants to return in the spring, and soon after his arrival, which is usually in March, he makes his presence known to those who understand where and when to listen for him, by the curious night song with which he wooes his mate. On warm, moonlight evenings he takes his flight high in air, and when far above the earth utters at frequent intervals



WOODCOCK AND YOUNG.

(DRAWN BY JAMES C. BEARD, AFTER SPECIMENS MOUNTED BY W. T. HORNADAY.)

a single note, somewhat like the ordinary call of the night-hawk. This he continues for some time, and then suddenly pitches downward from his height, and drops into cover. Here the female is waiting for him, and about her he struts, with head thrown back, wings trailing, and tail spread,—a parody on the turkey-cock of the farmyard. The nest is a rude structure of dead leaves and grass, and is usually placed under a fence, or by a log in some thick swamp, or perhaps on a tussock or bit of high ground in some alder run. The eggs are generally four in number, and are of a dull cream color marked with large spots of bright brown. As soon as the young emerge from the egg, they leave the nest and follow the mother. Thenceforward their development is rapid, and young birds have been found well able to fly by April 10. Two broods are usually reared in the Middle States. A curious habit of the woodcock, which, though well attested, is as yet but little understood, is its practice of carrying its young from place to place, apparently to avoid danger. Exactly how the mother bird does this is, owing to imperfect observation, as yet a question, but the weight of evidence goes to show that she holds it clasped between her thighs, as a rider does his horse, and does not carry it in her weak and slender claws. She will sometimes thus transport her young for a hundred yards or more, and if pursued will even make a second flight with it.

By the last of July in favorable seasons the young of the second hatching are quite fit to look out for themselves, and early in August the woodcock disappear; that is to say, can no longer be found by those who search for them. In September they collect once more in their accustomed haunts, and they are fat, in good plumage, and fit for the gun.

Formerly it was legal all over the country to kill this species during the month of July, at which time many of the young were barely able to fly, and when, after a late spring, some of the mother birds were still brooding the eggs of their second hatching. This practice, although often shown to be most pernicious, is still permitted in some States, but is universally condemned by the better class of sportsmen.

The coming together in September of the birds which have been mysteriously hidden away, no one knows where, is often loosely spoken of as "the first flight," or, in other words, is regarded as the

beginning of the southward migration. It is, however, nothing more than a collecting in favorite food localities of the "home birds"—those which have spent the summer, or been reared, in the neighborhood.

The first true migratory movement of the woodcock usually follows a sharp frost early in October. The birds are not gregarious, and for the most part move singly; though two, three, and even four have been seen flying together, and sometimes six or eight may be started in succession from a single small piece of cover. The migration is performed during the night; though in dull, cloudy weather there is some movement in the day-time. Their flight is low over the fields, and sometimes half a dozen will pass by in an hour. This low flight is swift and the birds are often killed by flying against telegraph wires, and sometimes dash themselves against buildings.

In New York and New Jersey, the woodcock may almost be considered as resident, for in mild winters a few birds are to be found late in December and early in February. The bird does not seem especially to dread the cold, but the freezing up of the ground cuts off the supply of food, and so obliges it to move southward. Often, however, in the coldest weather, an old fat bird may be found about some warm spring hole, where the ground never freezes; and here, if undisturbed, it may remain all through the winter.

The principal food of woodcock is the earth-worm, though they also devour many insects which are to be found in the damp situations which they affect, and have been seen to catch butterflies. The "angle-worm," however, is the main reliance of this species, and the number of those which a single bird will devour in a given time is astonishing. Audubon says that a woodcock will devour in a single night more than its own weight in worms, and some experiments on this point, recently made on a captive bird, entirely confirm the observations of the great naturalist. This specimen was apparently a male, and weighed, at the time of its capture, five ounces. His cage was two feet long and one deep, and had been fitted up for him by covering the bottom with long, dry moss, except in one end, where there was a box of wet earth, eight inches square and three deep. The bird was fed altogether on earth-worms, and these were buried, a few at a time, in the mud. From the first, this woodcock manifested very little fear of man; and it was but a short time



EGG OF WOODCOCK.

before he so well understood what the opening of his cage door meant, that at the approach of his owner he would run to his "feeding-ground" in anticipation of the meal. So eager was he that it was necessary to push him away to the other end of the cage while the worms were being buried. As soon as he was permitted he would run to the mud and "bore" for the worms. This was a very interesting proceeding. He would push the point of his bill into the earth at an angle of about eighty degrees, and by two or three deliberate thrusts bury it to the base. While doing this the left foot was slightly advanced, and the body somewhat inclined forward. When the bill was wholly buried, he stood for a few seconds perfectly still, as if listening. Perhaps he was doing so; but it seems more probable that he was waiting to see if he could perceive any movement in the earth near his bill. If none was felt he would withdraw his probe and thrust it in again a little further on. If, however, he detected any movement, the beak was hastily withdrawn, rapidly plunged in again in a slightly different direction, and the unfortunate worm was brought to the surface and devoured with evident satisfaction. When the supply of worms was exhausted the bird carefully cleansed the mud from his bill by means of his feet and, after giving himself a shake or two, retired to the farthest corner of his cage, buried his long beak among the feathers of his back and settled himself for a quiet after-dinner nap. Sometimes he would thrust his bill down among the moss once or twice, and then walking to his water-dish would wash it by slowly moving his head from side to side. After he had been confined for over a month, the worms fed to the bird during twenty-four consecutive hours were counted and weighed, and he was found to have eaten two hundred worms, weighing five and one-quarter ounces. At the end of this

time he was still eager for food. Somewhat later he had increased one ounce in weight, and he now ate in twenty-four hours no less than eight ounces of worms.

If it were worth while to have a special gun for woodcock shooting, it should weigh not more than seven pounds, with 28-inch barrels, and be of 12 or 16 gauge; but the one used for quail will answer every purpose. The charge should be three drams powder and an ounce of 12 shot. As, however, quail and ruffed grouse are almost sure to be started during a day's tramp after woodcock in the autumn, a more general charge, three and a half drams powder and an ounce of 10 shot is better. The dog is a most important auxiliary in woodcock shooting. A very few sportsmen employ cocker or field spaniels, which are trained to range close to the gun, and to give tongue as soon as they strike the scent, thus warning the shooter of the proximity of the bird, and preparing him for its possible rising. But most men use the setter or pointer. A good woodcock dog should work close; that is, within sight of the gun. Often where the undergrowth is very thick, it becomes necessary to attach a bell to the dog's collar, so that if he pass out of sight for a few moments, his whereabouts may still be known by the sound.

Late in November you will still find a few birds, and at this time they will all be lusty and strong of wing, and will test your skill. Cross the meadows then, and go down into the swamp, working along near the edge, where the underbrush is not too thick, and the soil under the leaves, as you can see in the cattle-tracks, is rich and black. Just beyond you on the left, a steep hill-side rises sharply from the edge of the swamp, its surface overgrown with low cedars, sumacs, and bayberry bushes. The old dog comes out of the swamp and turns toward the slope and, as he crosses before you, glances back inquiringly. He knows the hill-side, and understands as well as you do, that a cock is usually to be found on that warm southern exposure, at this time of the year. No need to wave the hand or use any elaborate signal to tell him to work up among the cedars and through the brush. A little sidewise movement of the head, and he is breasting the steep ascent, and rustling among the twigs and over the crisp leaves, while you walk along a cow-path at the foot of the slope. If there be a bird there, it will be sure to fly toward the swamp, and must, therefore, cross in front of you. For a few moments you hear the dog as he works along

above you; then the sound ceases and, as you pause to listen for it, there comes to the ear that shrill whistle, so like the midsummer twitter of the kingbird, that warns you to "mark cock." You see a brown flash among the green cedars, and the bird darts out to plunge into the swamp; but as he sees you, he turns sharply and flies down the path, straight away. You have plenty of time; bring up your gun deliberately, cover the bird and, when it is about thirty yards distant, fire, and it is yours. At the report of the gun your dog appears on the bank above, pauses a moment until you have slipped another cartridge into the gun, and then dashes off toward where the bird lies. A word steadies him as he approaches it, and after quartering once or twice, the scent reaches his nostrils. He feels for it, then pauses, and at command steps forward, gently takes the bird in his mouth, and trots slowly toward you, expressing as much pride and satisfaction in his face and in his slowly wagging tail as if he had captured the prize without any assistance of yours. On again, along the border of the swamp, sometimes stooping low to pass beneath the tangled underbrush, or forcing your way through thé thick alders, making the dead stems crack and fly, or passing through a spot free from low shrubs, where the tall, gray trunks of the hardwood trees stand far apart, and the footfall is scarcely heard on the damp, dead leaves. For some time the dog works quietly ahead of you, manifesting none of the signs which would lead you to suspect that birds were near; but as you approach a little arm of the swamp which runs up a narrow ravine, the merry action of the setter's tail warns you to be prepared for the point. Yes, there where the wind has swept aside the leaves, exposing the black mud beneath, you see in it dozens of little round holes which tell you that the long bill has been at work here. Suddenly he stops and stands quite still, except that the tip of his tail moves a little from side to side. As you step up to him, he moves on again, very slowly and cautiously, and then suddenly stops and remains motionless. It is a pretty picture, and one that the sportsman never tires of watching and admiring. The dog's forefoot is raised in the act of stepping, his tail is straight and rigid, head a little above the line of the back and slightly turned to one side, ears a little pricked. Walk up beside him and look at his face, and you will see, what his attitude already indicates, that he is laboring under strong excitement. His nose is perhaps within a few inches of the bird,

North Carolina, and sometimes Virginia; and it usually makes its appearance in New Jersey and New York about the last of March or the first of April, though the date of its arrival depends almost entirely on the weather, and the consequent condition of its feeding-grounds. As long as the meadows are ice-bound it is useless to look for snipe; but as soon as the frost has come out of the ground, especially if the last thaw be followed by a soft, warm rain, the shooter may, with some prospect of success, visit the little spots of wet land, or the more extensive marshes, where his experience of former years tells him that the birds are likely to be found. At this time of the year they do not tarry long; but the places of those which pass on are at once filled by later comers, who are in turn replaced by others, so that snipe are usually found in greater or less abundance until after the first of May.

This species does not ordinarily breed with us in any considerable numbers, most of the birds passing the season of reproduction north of the United States line. Still, many rear their broods in the State of Maine, and their nests have been found in Connecticut, New York, Pennsylvania, and even further south. The nest is built on the high ground near some wet meadow,—or sometimes on a dry one if a tiny brook murmurs through the grass near at hand,—and is even of slighter construction than that of the woodcock, being little more than a depression in the ground lined with a few blades of grass. Four pointed eggs are laid in this, yellowish-olive in color, thickly spotted with black and dark umber. The young leave the nest as soon as they are hatched and follow the mother, or, as the naturalists would say, they are præcocial.

The snipe is essentially a bird of the open, and is rarely found in cover. Occasionally in the spring, when a late fall of snow occurs after the birds have come on, covering for a day or two the meadows where they feed, they may be found in alder or willow swamps near their usual haunts, probing the mud about the warm springs where the snow has melted; but as soon as the ground is again bare they leave such retreats and at once repair to the open. Sometimes, too, when persistently pursued on the marshes, they will take refuge among woods or even in dry and dusty corn-fields, but will only remain there for a few hours.

The favorite feeding-grounds of the snipe are fresh meadows, where the ground is always moist and the soil rich. One can tell as



A WILSON'S SNIPE FAMILY.

(DRAWN BY JAMES C. BEARD FROM SPECIMENS IN THE COLLECTION OF DR. E. B. WHITINGHAM, MOUNTED BY DAVID B. DICKERSON.)

soon as he steps on the meadow whether the birds have recently been here; for in the cattle paths or in places where the hogs have been rooting, or on the bare side of a tussock where no grass grows, the soil will be perforated by numerous tiny holes, showing where the bill has been inserted in the mud in the search for food. The presence of high grasses or reeds may sometimes keep the birds away from marshes to which they would resort in numbers if it were not for the luxuriance of the vegetation. They do not like to alight among such thick cover, and besides, they cannot easily get at the ground. It is therefore customary, in the early spring before their arrival, to burn over such tracts, and places that have been treated in this way are favorite resorts for the travelers.

At present the Wilson's snipe is shot at all times and seasons, and has no protection under the law. The result of this unwise destruction is clearly seen in the greatly diminished numbers of the birds which annually visit our more accessible meadows. If a female snipe, killed in April or May, be dissected, she will be found to contain eggs in an advanced stage of development, varying in size from a marble to an egg nearly ready for exclusion. Many of the birds are paired long before they leave us in spring. They certainly should not be shot at this season, just as they are about to rear their young. Snipe-shooting in autumn is much more satisfactory, and the birds appear to be more numerous than in the spring, because at this season their feeding-grounds are more contracted, and they concentrate on the meadows that are always wet, and about ponds and marshes which have margins of black mud, in which they delight to bore. The prospect of finding them is thus much better than when they are dispersed over a much greater area.

The main body of the snipe leave us by the latter part of November, but a few prolong their stay into December, lingering as long as their feeding-grounds remain open. As with the woodcock, the cold is only indirectly the cause of their departure; the impossibility of their longer obtaining food being the immediate motive which drives them south. On the Laramie plains, where in winter the temperature falls sometimes to —30°, and even —40°, Fahrenheit, a few snipe are to be found throughout the winter, about certain warm springs which never freeze.

Few of our birds are so poor in local names as this one, for it is almost everywhere known either as the "English" or the "jack"

snipe. Along the New England coast, however, it has an appellation which is rather curious. As the bird arrives about the same time as the shad, and is found on the meadows along the rivers where the nets are hauled, the fishermen, when drawing their seines at night, often start it from its moist resting-place, and hear its sharp cry as it flies away through the darkness. They do not know the cause of the sound, and from the association they have dubbed its author the "shad spirit."

The snipe is either a bird of weak mind, deplorably vacillating in character, or else he is much more shrewd and profound than any one thinks. At all events, he is notorious among sportsmen for two characteristics, denoting either high intelligence or lamentable indecision.

Most birds when they rise from the ground appear to have some definite idea of the direction in which they wish to go, and having started in a particular line of flight, keep to it, unless turned by some alarming apparition before them. Not so with the snipe, however. He springs from the ground uttering his curious squeaking cry, darts a few yards one way, changes his mind, and turns almost at right angles to his original course; then he appears to think he has made a mistake, and once more alters his direction, and so twists off, "angling" across the meadow until he is safely out of gunshot. He then either rises high in the air and swings about for awhile, looking for a desirable spot to alight, or else settles down into a straight, swift course, which he keeps up until his fright is over or he has come to a spot which is to his liking, when he throws himself to the earth, and with a peculiar toss of his wings checks his progress and alights. The eccentric zigzag flight of this species is very puzzling to many sportsmen; and some who are capital shots at other birds appear never to be able to calculate the movements of the snipe. The secret of success in killing these birds consists, we believe, in great quickness,—that is, in wasting no time in an attempt to follow their flight, but in pulling the trigger at the moment the gun is on the object. The peculiar cry which is uttered at short intervals during its flight is sometimes extremely irritating, especially after one has missed with both barrels. What appeared when first heard to be only an expression of fright, or a call of warning to its companions, sounds to the disappointed shooter, as it comes back to him

more and more faintly from the distance, very much like a note of derision.

The other characteristic for which the snipe is noted is the eccentricity and irregularity of its arrival and stay with us during the migrations. That snipe are "uncertain birds" is a proposition which has universal acceptance among those who shoot over the wet meadows. As a rule, more dependence is to be placed on their coming in the fall than in the spring. But even in autumn they cannot be counted upon. Sometimes they arrive singly, or a few at a time, and those which are killed to-day are at once replaced by others; or again, for a week or two at a time, the meadows may be worked over without starting a bird, and then all at once they will be found in great numbers, and will then as suddenly and as completely disappear. A piece of ground which at evening affords splendid sport may be visited at dawn next day, and it will be found that the birds which were there have all departed. Happy is the man, therefore, who finds the snipe plenty, and he is wise who shall take advantage of the present opportunity. The advice, *Carpe diem*, applies with more force to snipe-shooting than it does to a good many others of the affairs of life.

As early as the last of August, an occasional snipe may be found on the meadows; but it is not until the latter part of September that the migrants begin to arrive in any numbers. They are now in good order—often very fat—and are lazy, and lie well to a dog, if the weather is right. The pleasantest time to shoot them is during the warm days of October and November.

At such a time the birds are loath to rise, and will permit the dog to approach quite close to them before taking wing. On dark, cloudy days, on the other hand, especially if the wind be high, there is no such thing as getting a point on them, for they will rise at a distance of thirty or forty yards, and often the flight of the first one and his sharp *skeap, skeap* will be the signal for every snipe on the meadow to rise into the air and circle around for five or ten minutes before pitching down again. In such weather as this, the only chance of getting within shot of them is to work down the wind,—thus reversing the usual order of things in shooting,—and to keep the dog close in. Snipe always rise against the wind, and, by advancing on them with it at your back, they

are forced to fly toward you for some little distance, thus giving you an opportunity to get a shot at them at fair range.

Where birds are scarce, a good dog is invaluable, because of the amount of laborious walking that he saves the shooter; but there are times and places where a dog is very much in the way. Such are some of our western snipe grounds, marshes where these birds are sometimes so abundant that they rise from the ground a dozen at a time, and where, perhaps for hours, the sound of their bleating cry is heard almost continually. Under such circumstances, a dog is only an annoyance; for the ground is so foiled by the scent of the many birds that have run over it that the poor animal is confused, and is constantly false-pointing and wasting his master's time. Here the only use to which the dog can be put is that of retrieving. There are some cunning old dogs that, when they find such a condition of things existing, will come in to heel without orders, and pay no further attention to the birds which are rising around them, only occupying themselves with the securing of those that may be shot.

This bird does not give forth a strong scent, and as it is often very little disposed to lie well, a dog of unusual keenness of nose, as well as caution and steadiness, is required in its pursuit. A very faint scent should be enough to cause him to stop until his master has come up to him, and he should then draw on very carefully until, if it will wait, he can locate his bird. There are days, to be sure, when snipe will permit the dog to get his nose within a few inches of them, but this is the exception rather than the rule.

It is always a convenience, however, to have a retriever with one while snipe-shooting, for without considerable practice it is not easy to mark down the dead bird so accurately that you can walk direct to it. This becomes especially difficult when several birds rise together, or nearly so, and you shoot first one and then another, and then perhaps try to mark down the remainder of the whisp. You have a general idea of the direction in which the first one fell, and are sure that the second dropped close by a certain little bunch of grass; but when, after having strained your eyes after the living and marked them down, you turn your attention to the dead, you are likely to find yourself somewhat perplexed. You see now that there

are a dozen little bunches of grass near where the second bird fell, any one of which may be that by which you marked him; and as for the first, you feel very hopeless about being able to go within twenty yards of where it dropped. So you may lose half an hour of valuable time in searching for the dead. Practice in marking and a quick eye will, after awhile, enable you to retrieve your own birds successfully. As a matter of fact, there is always something—a bunch of grass, a bit of drift stuff, a flower, a leaf, or a weed stalk —near your bird which is unlike anything else close to it; and you must see this object, whatever it is, and remember it, in the instant's glance that you have. Of course, some birds will be lost, —that is inevitable; but it is wonderful to see how, by practice, the memory and the eye can be trained in a matter of this kind.

The snipe, although often very wary, appears to be quite devoid of that cunning which distinguishes so many of our game birds. When wounded, it rarely attempts to hide, but either runs off quietly in a straight course, or, if only wing-tipped, springs again and again into the air in its attempts to fly, and constantly utters its singular squeak of fright.

There is one feature of snipe-shooting which makes it very attractive, and this is that you have your dog constantly within sight; you can see all his graceful movements and enjoy his intelligent efforts to find the birds,—to locate without flushing them. To our notion, more than half the pleasure of field shooting of any description is derived from seeing the dog work, and this can be done better on the open snipe meadows than under almost any other circumstances. Beating for snipe, however, is usually, from the nature of the ground, very laborious work. The walking is often through mud and water up to the knees, or perhaps one is obliged to pick his way through an unusually soft marsh, springing from tussock to tussock, with every prospect of tumbling now and then from those unsteady resting places into mire of unknown depth. This mode of progression requires some muscular exertion and constant attention; and besides this, the dog must be constantly watched, and unexpected birds, which he may have passed by, must be shot at and marked down.

It is therefore essential that the snipe-shooter should carry no extra weight. His gun should be light, and his cartridges need

not hold more than an ounce of No. 12 shot; for this bird is easily killed, and, as it is so small, and often rises at a considerable distance, it is important that as many of the leaden pellets as possible should be sent after it. Rubber boots reaching to the hip are, of course, necessary, and the clothing should be gray or brown in color,—inconspicuous, at all events. The places in which the snipe are found are often resorted to by some species of our ducks as well. The little pools and creeks, which are sure to be found in extensive snipe marshes, furnish food for the blue and green winged teal, the black duck, mallard, baldpate, and wood-duck. It will therefore be advisable for one who is about to visit such grounds to put in his pocket half a dozen cartridges, loaded with three and a half drams of powder and an ounce of No. 8 shot; for although No. 12 may prove effective against the ducks at short range, it is well to be prepared for longer shots.

As between woodcock and English snipe, the preference would be given with but few dissenting voices to the larger bird. Snipe-shooting, from the erratic movements of the bird, is something that cannot be depended on, while, if the conditions of weather and feeding-grounds are favorable, one may count with some certainty at the proper season on having sport with the woodcock. As regards delicacy of flavor, there is nothing to choose between the two. For birds so nearly related they are wonderfully unlike in appearance and habits, and the snipe is certainly much better able to take care of himself than his rusty-coated cousin.



EGG OF WILSON'S SNIPE.

FIELD SPORTS IN MINNESOTA.

By CHARLES A. ZIMMERMAN.

THE fall of 1877 will long be remembered by the people of Minnesota as the time when the destructive locust took his farewell meal from their wheat-fields. Fields that might have yielded from three to five bushels of wheat per acre were not gleaned at all, but left to be plowed over in the fall. To such fields as these the wild fowl, for which the State is noted, resorted undisturbed, and geese, brant, cranes, and ducks fairly reveled in their bounty.

It may well be imagined that news of this state of affairs sent numerous hunting parties out along the two lines of railroad that penetrate the afflicted region, viz., the Sioux City and St. Paul, and the St. Paul and Pacific roads. During the last week in September of that year, the writer found himself with a party of three friends *en route* by the second-named road for a few days' stay among the wild fowl in Kandiyohi County. With every possible convenience for camping out, the outfit comprised also a portable Bond boat, and a full complement of decoy-ducks, together with a dozen or more goose-decoys, all of our own manufacture. W——, our "Senior," brought along his retrieving setter and constant companion, "Prince." B——, our "Junior," from Lake City, Minnesota, exhibited with pardonable pride his "Royal Fan," a dark liver-and-white pointer, the first-prize winner in her class at the New York Bench Show of 1877. "Turk," a dark-brown Irish water-spaniel, accompanied his master J——, the most tireless hunter of the party. "Fuller" and "Occie," a matched pair of black-and-white setters, were the property of the writer, and with those before mentioned comprised the dogs of the party.

A run of six hours brought us to Swede Grove, where we left the cars and were met by Mr. William Wilcox, *alias* "Bill," a well-to-do farmer and an ardent sportsman. His two-horse team and wagon furnished us transportation to his house.

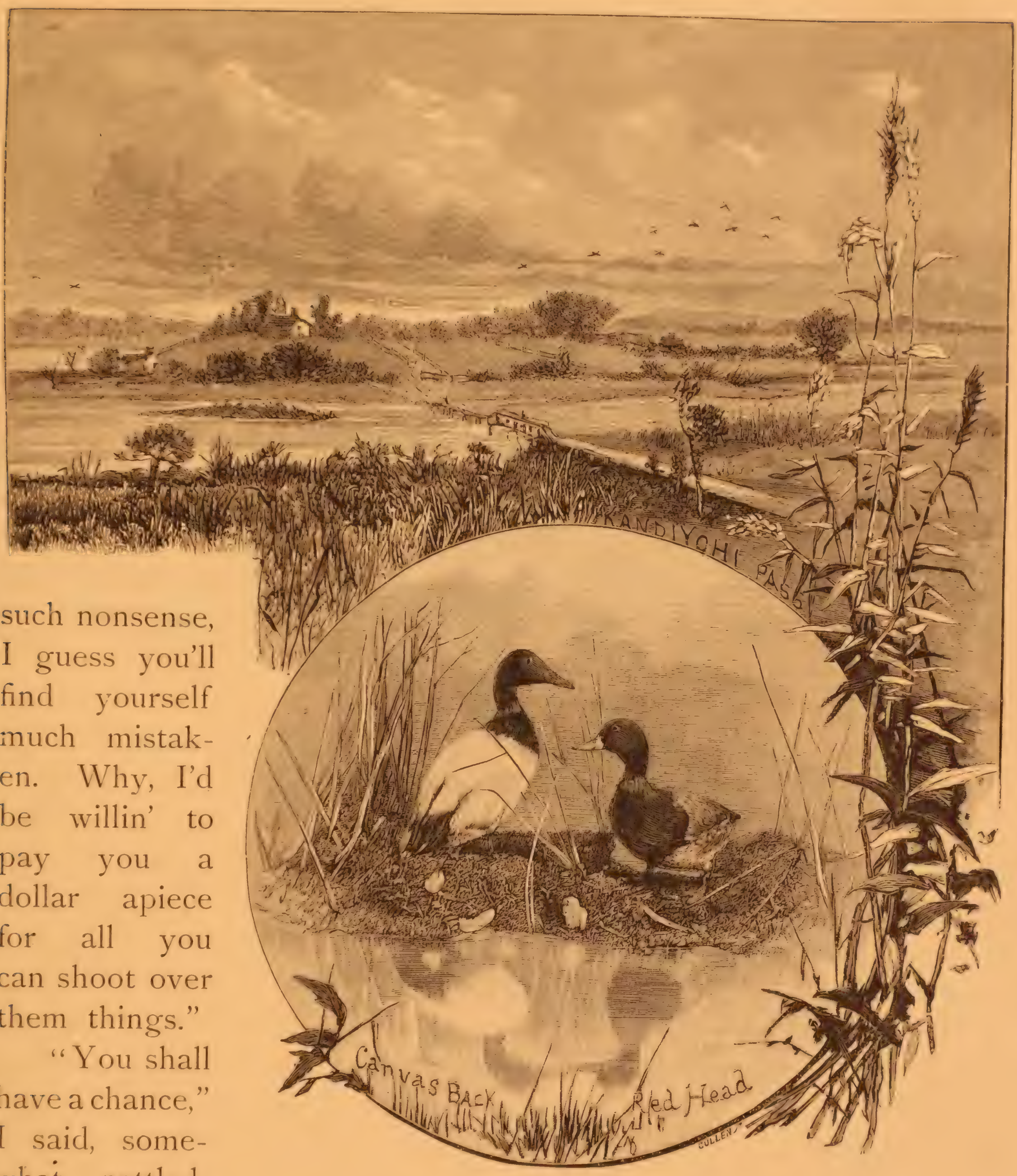
"I'm glad you've come," said Bill, as we drove up briskly to the open door of his roomy dwelling; "for the sand-hill cranes have been goin' for what little corn the plaguey 'hoppers left standin', and 'pears to me, gentlemen, with such guns as you have got along, you might make it right lively for 'em."

"Yes," chimed in his wife; "you can hear them even now, gentlemen. The noise is gettin' unbearable; and if you'll step up here on the porch, you can see them plain."

We assured her, while taking a look at the large birds, as they covered the field like a flock of sheep, that nothing would please us better than an immediate attack; but even as we debated on a plan of assault, the cranes, to the number of several hundred, as if they scented danger, took wing and with discordant cries circled about until they attained a certain altitude, when they left in the direction of Big Marsh.

I had long desired to make the closer acquaintance of these birds, incited a little, too, by many a failure to stalk them. On the sly, for fear of being laughed at by my companions, I had brought along three crane-decoys, neatly cut out of card-board and painted light gray, in fair imitation of the sand-hill crane. Here, at once, was the opportunity to make a test of their merit. So, leaving the rest of the party at a favorable moment, I took my way to the corn-field, where all was now quiet. The ground had been beaten hard in places by the busy feet of the marauding cranes, and corn-stalks lay here and there, as the hungry birds had wantonly tossed them. It did not take long to select a convenient "shock" for a "blind," or ambush, and I returned to the house filled with anticipations of the coming sport. Upon the floor of Bill's cozy sitting-room, surrounded by his children, who regarded my movements with open-mouthed attention, I proceeded with some diffidence to unwrap the package of decoys. Presently the crane counterfeits stood disclosed, and a ripple of merriment went round the circle, ending in a perfect roar upon the entrance of my friends, who relentlessly joined in.

"If you think, mister," said one of the plow-boys, after the merriment had somewhat subsided that, "you can fool a crane with



such nonsense, I guess you'll find yourself much mistaken. Why, I'd be willin' to pay you a dollar apiece for all you can shoot over them things."

"You shall have a chance," I said, somewhat nettled. "When you ride out to your plowing in the morning, come to my stand, and you may have an opportunity to invest your small change."

When at last it was light enough to distinguish objects about me, I had been at my post in the corn-field a full hour, almost breathless with expectation. What if the cranes should fail to come, and I be compelled to return to the house empty-handed and face my more fortunate companions, the distant report of whose guns had been repeatedly borne to me from the direction

of Crow River and Wilcox Pass? Worse than this would be the triumph of the knight of the plowshare. For the sixth time, certainly, I walked off a little distance and took a survey of my ambush, about which the three "base libels" were so naturally grouped as to give me quite a start when my eyes fell suddenly upon them. The smoke curled lazily upward from the farm-house chimney, and lost itself in a veil of mist which slowly ascended from the lake on the right of the house. Now, the upper edge of the cloud mist took on a rosy hue, due to the first warm rays of the sun, which seemed to be rising from an early morning bath in Wilcox Lake. The varying beauties of the veil of mist were duplicated by reflection in the still water beneath. The beauty of the scene made me quite forget my disappointment.

There is considerable activity now among Bill's barn-yard fowls, and I can even see his little folks scampering about the yard. A gentle breeze has ruffled the surface of the lake and carried away every trace of the fog which made the sunrise so beautiful. My slender decoys feel the influence of the wind, and nod in a ludicrous, if not most natural, manner. But in another minute I am scampering back to my blind, for in the clear sky above Big Marsh I have discovered a flock of cranes winging their way in a direct line for this field. Stepping quickly into my blind, I grasp my trusty gun, and somewhat nervously await their approach. Though scarcely considered fast flyers, they are not long in traversing the intervening space, and presently are circling about over me, evidently scanning the ground closely. Of course, when directly overhead, the decoys are invisible to them, but are again clearly seen when they have swung off at an angle. A little more maneuvering, and they seem to conclude there is no enemy about, for they set their wings, and, with long legs awkwardly dangling in the air, come on slowly, preparing to alight. Almost before I am aware of it they are upon me,—one, indeed, so near that, were I to fire now, he would be fearfully mangled. The leader of the flock offers a tempting shot at thirty-five yards; him I give the contents of my right barrel, and he doubles up instantly over my sight. Not wasting an instant, in the hope of making a "right and left," I "cut away" again at the now thoroughly alarmed flock, and one more of the immense birds comes to the ground. Too elated with my success



A CLOSE SHOT.

to exercise patience, or even to think of caution, I do not pause to reload, but, dropping my gun, run rapidly to bag. The first is found dead within forty yards; giving him only a glance, I pass on to the other, which is not less than sixty yards from the blind. The old fellow seems dead enough, and without much ado I stoop to pick him up, when he astonishes me by instantly rising to his feet, with every feather ruffled and his long wings beating the air. His ugly, sharp bill is extended, and emits a hissing noise, and altogether he is a very unpleasant-looking bird. For a full minute we gaze at each other, at least one of the two at a loss what to do next. It is becoming more and more evident to me that I do not care so much for him now as I did a short time ago. We are yet eying each other as I catch the sound of voices mingled with the confused tramp of horses, and feel certain that the plow-boys are approaching. Not caring to appear in a ridiculous light, above all others to these men, I determined to put an end to the scene, and accordingly make a quick attempt to seize the crane by the neck. This he successfully dodges, and in a twinkling wounds me in the wrist. Altogether out of patience, I make a bold dart for my gun, when to my astonishment the irate crane gives pursuit. At this moment the farm hands come

into full view, and I offer them the spectacle of the "city hunter," as they are pleased to style me, running away from a crane! The rest of the scene must be imagined. I do not attempt a settlement with the tormenters, but after finishing my enemy with a vengeful charge at close range, return to my blind, where I have the satisfaction of knocking over three more cranes before the summons to breakfast comes booming over the stubble.

My companions hang up in Bill's cool cellar thirty-one mallards, mostly green-heads. My adventure with the crane is freely discussed over juicy crane-steak sliced from the breast, which, together with good coffee and some of Mrs. Wilcox's best griddle-cakes smothered in cream and white sugar, constituted a breakfast heartily enjoyed by all. After allowing me to be well teased, our host puts a somewhat more serious color upon the matter by assuring us that it was rather a dangerous proceeding to face a wounded crane, which, like the heron, always strikes for the eye. Once, to his knowledge, the bill penetrated through the eye of an Indian, producing instant death.

Twenty-eight miles or more lie between us and Kandiyohi, where we intend camping, and there is no alternative but instant departure after breakfast. By nine o'clock we are waving our adieus to the Wilcox family, whose worthy head accompanies us as driver, friend, and companion. Our outfit, none of the smallest, is snugly stowed away. The day is exceedingly pleasant, and the entire party is in the very best of spirits. The rolling prairie road offers no hinderance, and we jog on at a fair pace. The neat appearance of the farm-houses and their immediate surroundings shows plainly the thrift of the owners, who are mostly Swedes or Norwegians. A likely looking prairie bordering a stubble causes us to tie up the duck retrievers, Turk and Prince, and cast off Royal Fan and two setters; this is done with the hope of finding a brood of grouse, or (as they are called in this State) prairie-chickens.

Fan led off at a round pace and quartered her ground thoroughly, showing beautiful style and action with thorough training. B——, her proud owner, from his seat in the wagon, controlled her movements by the "call" and by the motion of the hand. I could not help wishing that Macdona might see her now, and behold in her superb action and style a confirmation of his

judgment of her on the bench. Not much behind her, in either pace or style, were the two black-and-white setters, as with heads well up they dashed over the prairie; ranging in perfect accord with each other, yet entirely independent, they cast furtive and anxious glances in Fan's direction, evidently fearful lest she should secure a "point" before them or they lose an opportunity to "back."

Now Fan is slackening her pace, and is investigating a narrow strip of corn, which from neglect has become lodged. E——'s quick eye has detected the presence of game by the change in Fan's pace and manner. The two setters are down wind from her about forty yards distant, and are evidently scenting the same birds, for they come trotting up with their black noses high in the air, and with the peculiar elastic step seen only under these circumstances. Fan, in the meantime, proceeds with more caution, the scent becoming stronger; a moment or two of suspense on our part and the little beauty comes to a stand. We prepare to jump out, guns in hand, but desist as she makes a few steps in advance, every motion indicating her intense and increasing excitement. Presently, she is rigid! The setters have approached within a few yards, and the instant she makes her final stand become rigid also, backing her point stanchly. The trio form a picture no sportsman could fail to regard with pleasure: Fan is erect, yet exhibiting the characteristic point looked for in her species (not much does it resemble in its intensity of action the vacillation of a "puppy point"); her two companions, who seem to have attained an unnatural length, appear to be crouching for a spring, their usually kind faces showing lines and wrinkles indicative of strong excitement. "Are you all ready?" is B's question when we have ranged ourselves in position back of the dogs. Even as he speaks he makes one step forward, and a cock grouse flushes before him. He throws his gun quickly to his face; with the sharp report the bird drops into the corn, and a long stream of feathers drift down the wind, their number showing his perfect aim. Fan drops to "wing," instantly followed by Fuller and his mate. A step forward by our party and a pair flushing before W—— gives him an opportunity for a right-and-left, which he fully improves. Still the dogs maintain their recumbent attitudes, though it is easy to see their growing impatience. Another pair has bit the dust in response to a quick double from my gun, and poor J——, who seems to be

fated, for so far not a bird has flushed to him, is becoming tired of the monotony of the thing. Then B—— and W—— each bring down another bird. When B—— and W—— each bring down another bird, his impatience finds vent in words: "This is downright murder, gentlemen," said he; "you don't give the birds half a chance. A man," he added, "that could miss a chicken flushed in such easy range ought not to hunt in the company of sportsmen."

He had scarcely finished speaking when the old hen grouse of the brood whirred up under his very feet. Somewhat startled thereat, and before she had flown five yards, he fired all too quickly, scoring a clean miss. An exclamation escaped him at the result, and he at once sought her with his second barrel; his first had turned her a trifle from her course, and she presented now a side-shot at thirty yards. Any one of us could then have cut her down easily, but we preferred not to, and stood with guns in the position of ready, awaiting the result of his second. Bang! went the gun; on flew the bird. She was now fairly ours, and, though fifty yards away, succumbed instantly to the closely blended triple report from our pieces.

Like a man, the good-natured fellow faced our music and, taking off his hat, made us three, who stood laughing heartily, a most profound bow, at the same time remarking:

"I acknowledge the corn: it is not quite so easy as it appears to be," although he added, by way of retaliation, "I am quite certain even I could have stopped her ladyship with a treble dose!"

At the word "Fetch!" the eager dogs "seek dead," and in a twinkling come trotting proudly back each with a bird, on being relieved of which they are again sent in with a like result. Not much do these birds resemble the puny little ones bagged on the fifteenth of August, for they are full grown, hardy and strong, and very swift of wing. No. 7 shot, backed by a good charge of powder, has done the work. September grouse seldom lie so close as did this brood, every one of which lay safely bagged before us.

The three dogs, having had barely a taste of sport, show much unwillingness to take up again their position back of the wagon; but it is now the duck retrievers' turn, for we are about to enter a section of country thickly interspersed with small lakes or ponds, here called sloughs (pronounced *slews*). Turk and Prince, having work before them, are set free, and soon testify their appreciation

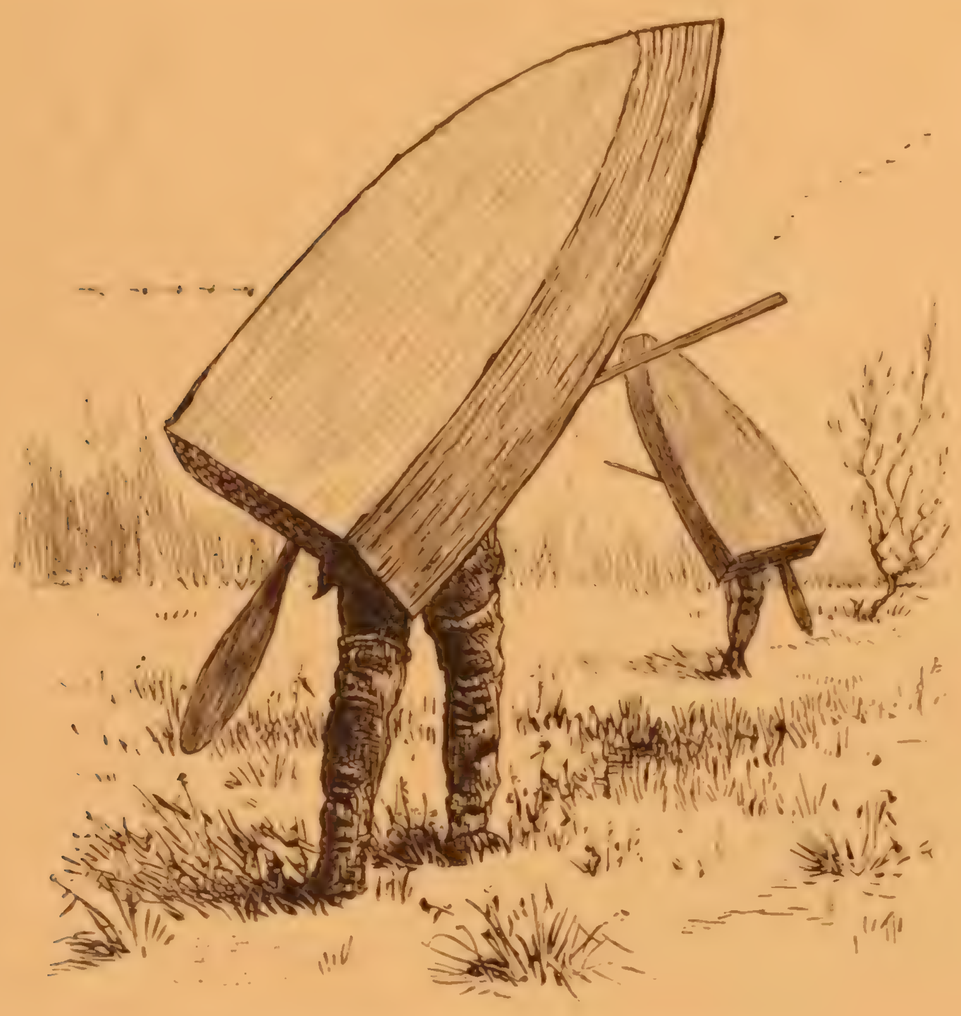


A SIDE SHOT.

by eccentric gambols. The two setters and Fan would delight in retrieving ducks, but are not very often indulged; the example of the average "duck dog," as he dashes in at the crack of the gun, is apt to have a demoralizing effect upon the steadiest of pointers and setters, and they are tempted to "break shot" at all times, which would be disastrous on almost any game other than ducks.

Mallards, widgeons, and sprig-tails delight in those small grassy ponds, which are generally thickly grown with wild rice, reeds, and rushes. A musk-rat house here and there furnishes sunning opportunities, and also enables them to mount guard. While Bill is securing his team to a convenient fence, we are planning an assault on one of these sloughs, which the little prairie-knoll ahead of us hides from our view. We employ the usual tactics, by surrounding it, each one approaching it from a different direction in deep silence, though we are not able from the shore to discover a feather. When every one is posted in as good cover as possible, Bill, according to previous arrangement, fires a random shot from his "pin-fire" over

the water. In an instant, with a quacking and a terrible fluttering, the well-concealed ducks spring into the air, and make a break in the direction of one of the large lakes. This will bring them over J——, and I watch them nearing the fatal stand. Now the barrel of his gun points upward from the clump of reeds in which he is concealed, and two birds topple over almost before the double report of his piece has drifted across the puddle. This reception has startled the flock, and in considerable disorder they turn only to be met by a similar reception from W——. Again are they repulsed and seek a new direction, which brings them over my stand, but such a height have they attained that only one drops dead to my gun. But Bill is the champion, for he stops three ducks with one barrel of his gun, having had time to exchange his finer shot for "No. 1," which tells with good effect at such long range. B—— alone has not soiled his gun, but by working the dogs has succeeded in bagging most of the ducks killed. Fuller and Occie are sent over the hill after those knocked down by Wilcox, and we are once more on our way.



BONDED GOODS IN TRANSIT.

To me there is not much real sport in this style of shooting, though the game is large and fine; it lacks the excitement of the "pass" shooting, and many birds are lost by falling into the matted reeds and grass, where the dogs have great trouble finding them; the incessant popping of the guns also has a tendency to divert their attention from the careful search necessary to find skulking wounded ducks. These sloughs or ponds occur very frequently upon the St. Paul and Pacific and Sioux City and St. Paul railroads, and under proper guidance a party of four or five will take heavy tribute from each as they go along. For this kind of shooting, a Bond boat offers superior advantages: composed of sheet-iron sides and a wooden



A "BOND" IN WET WEATHER.

bottom, it is made in two water-tight compartments, besides an air-chamber, to prevent sinking in case of an upset; it is of trifling weight, and easily transported. Two sportsmen, by each shouldering one-half of the boat, can make portage after portage, shooting out one pond and then carrying to another, no great distance ever intervening. These boats in transit upon a hunter's back have a most ludicrous aspect, and dull indeed must be he who cannot extract much humor out of the novel spectacle. Should a rain-storm arise, one of the compartments of the boat set up on end makes a very good shelter. The inadvertent kicking away of the supporting paddle to your novel roof will certainly justify the laugh sure to be indulged in by your more careful companion; but, unlike the turtle which you so closely resemble as you look out from under your temporary shell, you *can* crawl out of it.

It was quite late, with frequent stopping on our route from one cause or another, when our destination was reached. We were well used to camping-out, and our tent was very soon in position and in readiness for the straw bedding hauled from a neighboring stack. This was at once stuffed into a wide, empty tick, brought along for

that purpose, and we had a bed fit for a king, and one on which no tired hunter can long remain awake.

A coach candle in an improvised socket, fastened to the inside of the tent-pole, sufficiently illuminated the interior, and enabled us to get in readiness for the morning's work. "Chicken shells" were taken out, and suitable ones for duck-shooting substituted; no one forgetting to place a few loaded with "dbl. B" shot in a certain pocket of the Holabird shooting-coat; these last for a stray goose or two which has been known to fly over this pass more than once, in the memory of our mess.

Such an inviting bed as we had before us could not long remain untried, and one by one our party turned in. The full moon flooded our tent with a subdued light and brightly illuminated our surroundings. Through the tent-openings could be seen one arm of Little Kandiyohi and the two peninsulas, joined by a rickety bridge of hewn timber, which formed this well-known pass, and over which we are to have a "flight" in the morning twilight.

I am quite certain that I have not been unconscious for more than fifteen minutes, when I am rudely awakened by a severe thump in the side, which I am half inclined to return with interest, until I see that my friends are up and dressed. The candle is burning, and a bright fire roars and crackles in the stove, diffusing an agreeable warmth throughout the tent.

All of us are decidedly sleepy, and we should perhaps be still in bed, were our inclinations strictly followed, and we show less impatience to face the keen morning air than do our dogs, whom Bill has set free on his way to feed the team. The moon has long since disappeared, and inky darkness has succeeded, and we feel our way along as we go down to our stands upon the peninsula. The air, for a September morning, is quite chilly, and in spite of the cup of hot coffee and plenty of wrappings, I am soon all of a tremble, and cannot help contrasting this with the warm and cozy bed out of which we had lately crept. I feel much pity for my two faithful dogs, who are lying crouched at my feet, impatient for the word to plunge into the dark and chilly current for a duck. Some are already passing over, as we know by the sound of wings swiftly cutting the air. By rubbing the phosphorus of a match, the dial of my watch is rendered visible, and it is some satisfaction to know that



A COLD MORNING.

it is nearly five o clock and dawn is at hand. In a few minutes we shall be able to discern objects overhead, and by exercising skill and judgment, or "bull-head luck," as an old veteran of the pass calls it, a little execution may be done.

I now proceed to take off my gloves and my "gum coat," which had been donned for warmth, and to fill the pockets of my "Hola-bird" with shells, which are in this instance loaded with five drams of Dupont's ducking powder, and one and a quarter ounces of No. 6 shot, for the early flight. Shells loaded with Nos. 4 and 5 shot are used later in the day, when the ducks begin to "climb" as they cross. The icy-cold gun-barrels strike a chill to my bare hands, but my pulse has gained a number of beats in the last few minutes, a pleasant thrill of excitement pervades me, and I am fast warming up to the work. Standing in a regular skirmish line, about thirty yards apart, in the position of "ready," with guns in hand, and both the hammers raised, we strain our eyes to catch a glimpse of the game that is streaming over, but the veil of darkness prevents our seeing. Who will draw first blood? More than once have our guns been quickly thrown to our faces and our fingers rested on the triggers, but none of us has acquired the art of shooting "by ear," and slowly and reluctantly we lower them again. But

now from our junior's stand a blinding flash shoots up into the air at an acute angle, accompanied by a deafening crash, which rolls like a burst of thunder along the surface of the lake, until it is echoed back by the heavy belt of timber in a faint but perfect imitation. The sound that interests us most, however, is the plunge of the retrievers into the lake and the splashing in front of my friend's blind as one or more victims flutter upon the surface of the water.

A bunch of four or five swiftly moving, shadowy objects now draw my fire, and before the echo of my double shot has fairly died away, J—— and W—— have each made their first shots of the morning, and with good effect. Prince is now climbing the bank close by with a fine drake canvas-back, one of the two killed by the first gun of the morning. My two setters are swimming a race neck and neck for first choice on a pair that fell to my fire. As for Turk, he is absolutely diving for a wounded duck which has so far managed to elude his gaping jaws. At each fresh failure to secure it, Turk gives a yelp of rage, but finally manages to seize the duck by one wing and makes for the shore. The slight hold he has obtained allows the duck to flutter vigorously, filling its captor's eyes with water, much to his disgust.

But the sport in the air eclipses in interest that in the lake, and at W——'s sharp "Mark! east!!" every one goes down behind his blind, out of sight of an approaching flock of red-heads. They come on, unconscious of impending trouble, not over two yards above the surface of the water. Their first hint of danger is taken from seeing the dogs, which are swimming for shore, and they make an extraordinary effort to mount high in the air. This gives us a splendid opportunity, for from our point of sight they appear to stand still, and a volley at this instant gives the dogs more work to do. Our second barrels are put in with telling effect, and the badly demoralized flock now presents a far different appearance from that of a few moments before. The Bond boat is now used to recover the birds that fell on the west side of the peninsula, and that would drift away before the dogs could attend to them.

A momentary lull in the flight gives an opportunity to look about us and count our spoils. My friends have seventeen ducks between them, while my own string shows six—three canvas-backs,



THE BRIDGE STAND.

all drakes but one, two red-heads, and a widgeon—not very bad luck, certainly, and the flight is not half over.

The canvas-backs are handled with a degree of satisfaction that even the green-head and more gaudy mallard fail to inspire. To use the words of the lamented "Frank Forrester": "This is the royalty of ducks. No other water-fowl to him is equal, or second, or in any way comparable." While it is not unusual for a novice to mistake the red-head for the canvas-back, which it is true they resemble, the difference is yet quite marked. The attention once carefully drawn to the head of the latter, no red-head can ever again be mistaken for it. Aside from the color of the bill, which in the case of the latter is light blue and in the other black, the length and shape of both head and bill differ greatly.

Suddenly we hear the steady honking of an approaching flock of wild geese, which have left Kandiyohi Lake, and are flying up the narrows toward us on their way to the fields. A bird's-eye view of our party at this moment would have been most amusing, for every one of us seemed struck with a sudden and ardent desire to lay hands on something, and that in a most incredibly

short space of time. Each of us had one or more shells for just such an emergency as the present. To find and substitute these shells quickly, and without alarming the rapidly approaching geese, is the occasion of our frantic efforts. Those of us who had started out that cool morning enveloped in at least three coats apiece, and had laid them aside from time to time in as many different places, were in trouble indeed. W—— had left his goose ammunition in his shell-pouch by the blind, but having walked away a few rods while his dog was pilfering my ducks, he was now making for the coveted shells on all fours, so as not to be visible, with a celerity that would have astonished the many friends of this usually dignified gentleman.

Three of the huge birds are now heading for my blind, and the rest of the flock veer off in the direction of my comrades. My two expectant setters are already crouching for a spring, when the shell, which I have with some difficulty found, and which I am placing with some nervous trepidation into the opened breech of my gun, begins to stick; in the haste and excitement, I bear hard upon it, but it does not budge a particle. I then attempt to extract the shell; but no, it sticks as if it had always been there. Though I struggle like a madman in my efforts to dislodge it, I can make no impression, and have the mortification of beholding the geese sail over a rod or two above me, near enough, in fact, to have used even my No. 6 shot with deadly effect. "Bang! bang!" comes a volley from my right, and two of the "old honkers" tumble headlong into the lake, displacing at least a barrel of water as they strike the surface.



A TIGHT SHELL.

The main flight having passed over, and out of which we



have taken fair toll, we are favored with more "singles" than flocks; the shooting is consequently more interesting, because more difficult. Clean misses at these swift-flying birds are frequent. It seems at times next to an impossibility to swing the gun rapidly enough to cover and avoid shooting behind. Shooting into flocks "for general results," without singling out a bird, may be excusable in a Sunday "pot-hunter," or in a novice anxious to give a new Scott, Purdy, or Parker a good airing; but in a true sportsman—never. High or long shots should seldom be attempted here, as misses beyond fifty or sixty yards are common, and scores of birds are struck whose wounds prove fatal only after long suffering.

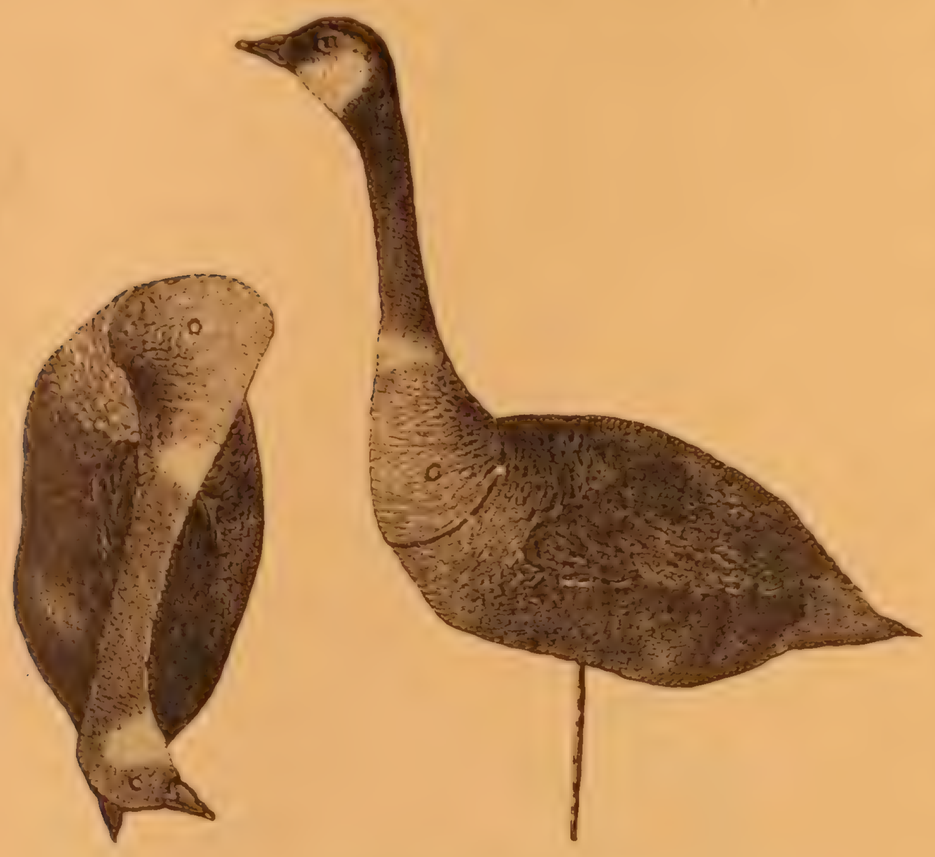


STOPPING AN INCOMER.

Side shots are most deadly; but proper allowance must be made for distance and speed of flight. Opportunities for double shots occur continually, and to make them it is often necessary to use the first barrel of the gun on an incoming bird, and the second will then, in all probability, be a side or quartering shot.

To stop an "incomer," raise the gun carefully in the line of his flight; move quickly ahead of the duck, when you judge him to be in range; and, when you lose sight of head and bill over your gun, pull instantly. The flight of a duck is ordinarily at the rate of about sixty miles an hour; but when accelerated by fear, or a brisk wind, or both, it is nearly double, and must be experimented upon to be fully appreciated. To become a good "pass shot," some of the requisites are: to be able to judge distances quickly and accurately; to be able to cover well the moving bird, and not to check the motion

of the gun at the moment of discharge. Most sportsmen flinch at that supreme moment, and unless the habit is entirely overcome, they cannot expect ever to become good wing shots. The "choke-boring" of guns, in limited use long ago, has only very recently come into favor and rather more general use. Upon the pass or elsewhere, it adds at least one-fourth more distance to the killing range of the gun. This is done by the effect it has upon the "pattern" made by the shot, causing the gun to throw a greater number of shot pellets into a given circle than can be done by the cylinder or straight bore. One barrel of the duck-hunter's gun should surely be bored in this way.

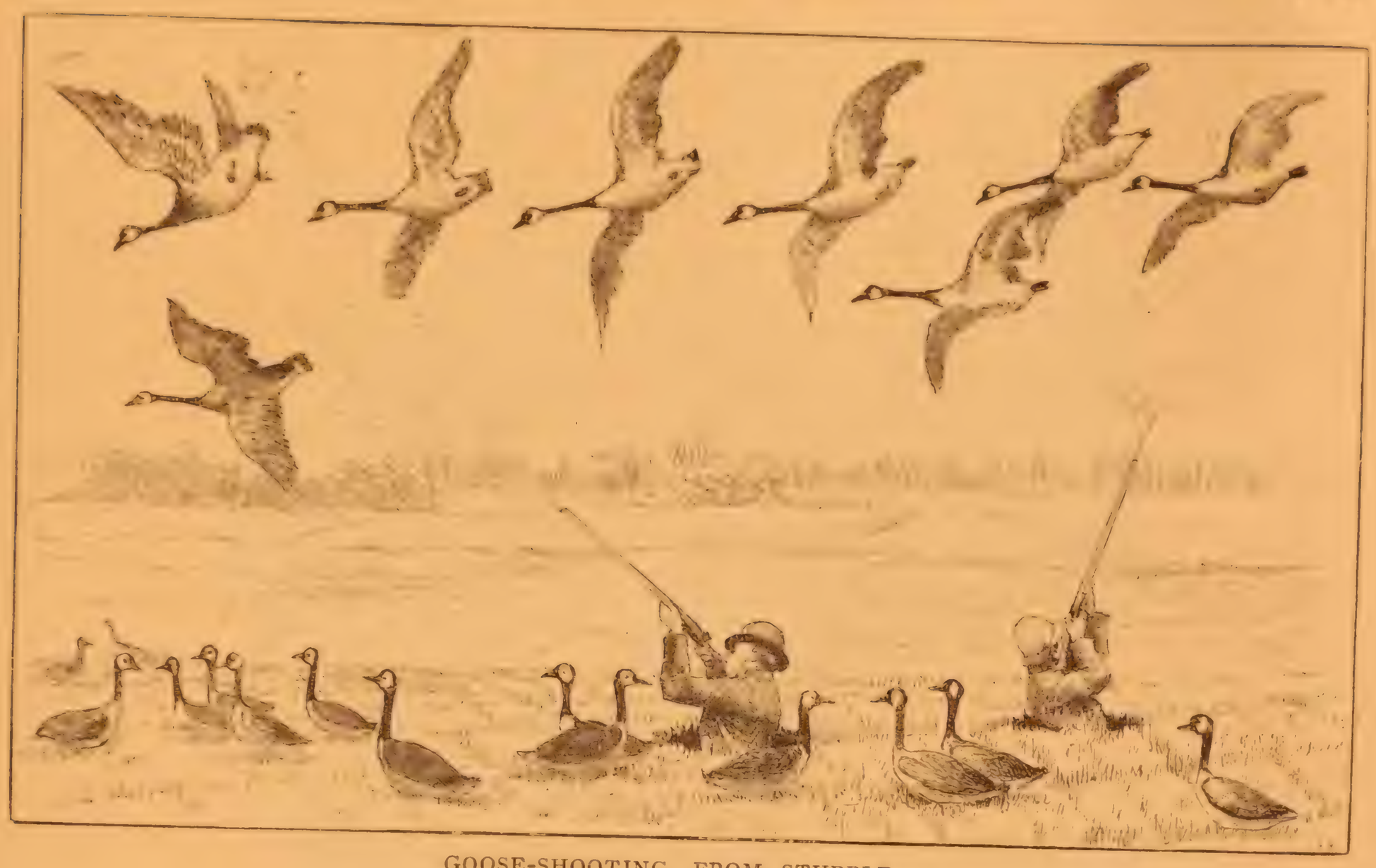


GOOSE-DECOYS.

Kandiyohi was once famous for its black-duck flights; but of late they seem to have abandoned it, and more mallards, red-heads, and canvas-backs are found here. Vallisneria, often miscalled wild celery (I say miscalled, because it bears no resemblance in taste to the common celery), is beginning to grow thickly in places, in addition to the wild rice, and may account for this fact.

It was in this vicinity that the pair of canvas-backs were killed by that veteran sportsman, General H. H. Sibley,—well known to the readers of the old "Spirit of the Times" under the *nom de plume* of "Hal-a-Dakotah,"—and by him sent to his friend "Frank Forrester," thereby settling a controversy between the two gentlemen, and proving conclusively—what Forrester had before denied—that the true *Vallisneria* is found away from the sea-coast.

To have anything like sport in the pursuit of the common wild goose *(Bernicla Canadensis)*, the ordinary methods of hunting water-fowl hardly answer here; besides, the lakes they frequent are not large enough to justify the use of the bay-shooting tactics from sink-boats, and from blinds near the water. These birds are exceedingly wary when upon the fields, and are very seldom bagged by stalking. In their watchfulness they have but one rival, and he an



GOOSE-SHOOTING FROM STUBBLE.

effective ally, in the sand-hill crane, which often feeds in their midst, thus adding to the difficulty of approach within effective range. The difficult problem of their successful capture was at last solved for us by Colonel Sam Doughty, of Lake City, Minn., who introduced shooting over decoys from pits dug in the stubble or new breaking, where it has been ascertained geese are in the habit of feeding. The decoys are of the simplest construction and greatest portability, being merely flat forms in good outline painted in imitation of the wild goose; these, when seen at right angles to their flat surfaces, at ordinary shot-gun range and beyond, are well calculated to deceive not alone his gooseship but even amateur sportsmen.*

Two flights a day are made by the geese from the large lakes in search of food; one taking place at daybreak in the morning and lasting perhaps an hour, and the other at four o'clock in the afternoon, occupying about the same length of time. On these flights they are often accompanied by the snow-goose (*Anser hyperboreus*) and the white-fronted goose (*Anser Gambelii*), which are here called respectively white and black brant, though they do not much

* Ex-Governor A—— will never forget how natural was the look of Major C——'s decoys on that memorable day near Kirkhoven, when, after crawling a long distance, he emptied his gun in riddling them. They had been left after the early morning flight by their owner, who witnessed the incident from afar.



WILD GEESE.

HUTCHINS'S GOOSE — CANADA GOOSE — WHITE-FRONTED OR LAUGHING GOOSE — SNOW GOOSE.

resemble the true brant of the sea-coast (*Branta hemida*),* which may be found occasionally in the midst of flocks of the other kinds, yet are by no means common.

From about the latitude of Kandiyohi County to the Red River of the north, the different species of the wild goose hold high revel and, upon the approach of the cold weather, may be seen in countless thousands massing for the southern flight. An early morning drive along the wheat-fields which they frequent will disclose them feeding either upon stubble or breaking. They must be allowed to depart not only unmolested, but of their own accord, when an examination of the feeding-ground is carefully made, and the pits may then at once be sunk. If there are two shooters, as many pits are necessary, and they are best circular in form, about thirty inches in diameter and forty inches in depth. The earth of the excavation may be partially utilized in constructing a slight embankment around the edges of the pit. The surface of the soil about the pit-openings must be manipulated until it accords in appearance with the natural surroundings. The pits may be near enough to permit of a whispered conversation between the occupants when the game is ap-

* *Branta bernicla* (Linn.) on the Pacific coast is the variety *nigricans*.

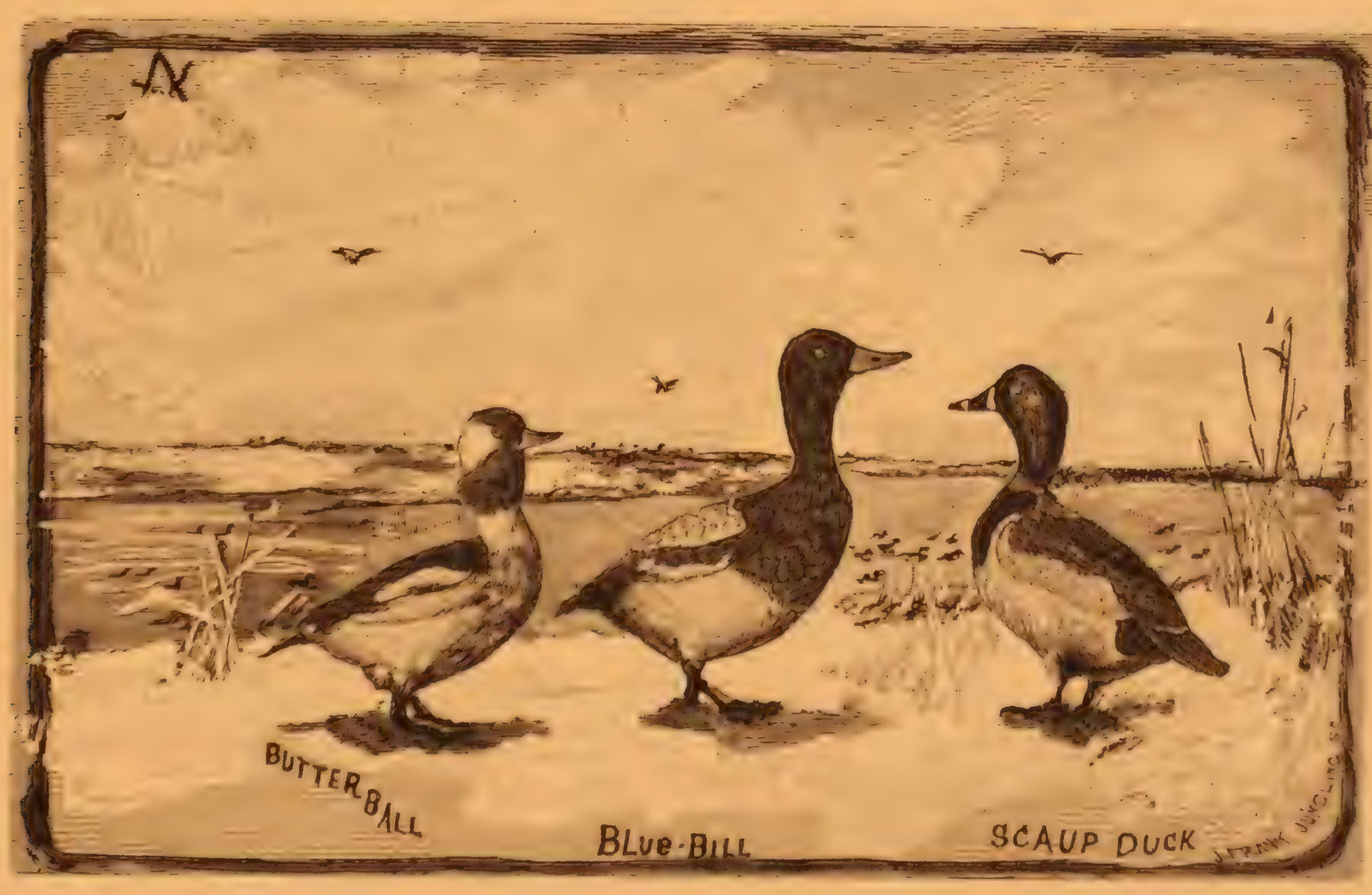
proaching. The decoys, to the number of a dozen or more, being flat, must be placed at such angles that when viewed from any point of the compass a few apparently solid geese are seen.

In the air, with no intervening object to correct the eye, geese appear very large, and consequently nearer than they actually are, and one is exposed to the temptation of firing too soon; therefore, the hole should be "worked" by a veteran at the business, who will command "Fire!" in due time.

Under the guidance of our junior, B——, an old hand at this kind of work, our party bagged, in four times "setting" out, twenty-one Canada, four white-fronted and three snow geese.

The decoy-ducks were put to good use in the lakes about our camp, and as the best of decoy shooting begins here after eight o'clock in the morning, and ends near three in the afternoon, no time is lost that could be better employed on the pass or on the stubble. There is a satisfaction in shooting over decoys that is not found in any other style of shooting, since by the exercise of judgment in placing the decoys and boat, the ducks may be forced to present whatever kind of shots you most desire.

Our bag for the week's trip was: Geese, thirty-one; cranes, five; pinnated grouse, fourteen; canvas-backs, seventeen; mallards and other ducks, one hundred and ten; Wilson's snipe and golden plover, twenty-eight.



46A

CANVAS-BACK AND TERRAPIN.

By W. MACKAY LAFFAN.

THE Chesapeake has conferred upon Baltimore the title of the "gastronomic capital" of the country. The fish, the game, and the reptiles of its generous waters, and the traditions of the Maryland kitchen, have made Baltimore a Mecca toward which the eyes of all American *bon-vivants* are turned with a veneration that dyspepsia cannot impair. Places have their dishes and exult in them. New England points with pride to an unsullied record of pumpkin-pies. New Orleans has its pompano, and boasts it much as Greenwich does its white-bait. In San Francisco, you win the confidence of the Californian by praising his little coppery oysters and saying that they remind you of "Ostend penn'orths" or Dublin's Burton-Bindins, and that, after all, the true taste of the "natives" is only acquired in waters where there is an excess of copper in suspension. At Norfolk, the sacred dish that is offered upon the altar of hospitality is the hog-fish. The modest New Yorker, in the acerbity of the lenten season, asks his foreign friend if he ever saw anything like "our shad." In Albany, you partake of "beef" sliced from a Hudson River sturgeon,—a fish of which cutlets from the shoulders are served in San Francisco to excellent purpose as *filets de sole*. Chicago has been heard to speak of white-fish. In Calcutta one inwardly consumes with curry. Bird's-nest soup, made from the gelatinous and insipid secretion of the sea-swallow, is the dish of honor at Shanghai. But Baltimore rests not its reputation upon the precarious tenure of a single dish; it sits in complacent contemplation of the unrivaled variety of its local market and calmly forbids comparison. While the Chesapeake continues to give it its

terrapins, its canvas-backs, its oysters and its fish, this may be done with safety; and among the pleasantest recollections that a stranger may have shall be those of a Maryland kitchen in the "season." Visitors from the mother-country seldom overlook it, and they have



AT THE CLUB IN COLONIAL DAYS.

recorded their sentiments ever since the old colonial days. In these days of rapid transit, it were strange if our transatlantic cousins did not know more about it; and Liverpool receives many a crate of canvas-backs, many a barrel of choice oysters, and many a can of terrapin, cunningly packed in Baltimore. There have recently been dinners given in London and Paris at which every article of food upon the table came from America.

The shores within reach of Baltimore are of considerable extent and are for the most part owned by wealthy citizens. In winter they are known as "ducking-shores," in summer as "fishing-shores." Some are leased to "clubs," just as trout and salmon rivers are in England and Scotland and Norway, but a majority are private property and are carefully guarded. The ducks of the Chesapeake are the same birds that are seen in Hudson's Bay and on the northern

lakes. They follow the edge of the winter along the Atlantic coast, and the water they prefer to feed in is that in which ice is about to form or from which it has just disappeared. Nowhere are they so good for the table as in the Chesapeake. Elsewhere they are tough or fishy; but the great vegetable beds of its shallows, and the quantity of wild celery that they contain, impart to their flesh its greatest delicacy and best flavor. In the matter of variety, they are known as canvas-backs, red-heads, bald-pates, black-heads and mallards. There are numbers of smaller ducks with arbitrary names depending apparently very much upon the locality and its peculiar ornithological bent. In the way of larger birds there are swans and geese. Their numbers are inconceivable, but they are very wild and hard to approach. Both, for the table, are as fine in their way as any game bird that flies.



DIVING FOR CELERY.—I.

There are various ways of shooting the ducks of the Chesapeake and its broad affluent, the Susquehanna. Gentlemen for the most part shoot from "blinds" and use decoys; while market gunners use the "sink-boat" or the "night reflector." "Blinds" are any sort of artificial concealment placed at an advantageous point upon the shore. They generally consist of a seat in a sort of box, or shelter, some four feet deep, and capable of containing three or four persons and a couple of dogs. They are thoroughly covered up with pine branches and young pine-trees and communicate with the shore by a path similarly sheltered. The water in front is comparatively shallow, and, if it contain beds of wild celery on the bottom, is sure to be a feeding-ground for the ducks. About thirty yards from the "blind" are anchored a fleet of perhaps a hundred and fifty decoys. They are wooden ducks roughly carved and painted, but devised with a strict regard for variety and sex. At a little distance they are calculated to deceive any eye, and they certainly have a great deal of weight in determining the action of a passing flock, or "bunch," of ducks. The sink-boat is in reality a floating blind. It is nothing more than an anchored box, or coffin, with hinged flaps to keep the water from invading it. The gunner



DIVING FOR CELERY.—II.



THE NEFARIOUS POT-HUNTER.

lies on his back in it, completely out of sight, and around it are placed the decoys. It is extremely tiresome work, but very destructive to the birds. They float down the stream when shot and are picked up from a boat stationed below. It is a wholesale murdering sort of thing and has little "sport" about it. The "night reflector" is quite as bad. It consists of a large reflector behind a common naphtha lamp and mounted upon the bow of a boat. The latter is rowed out into the stream, where the ducks are "bedded" for the night, and the birds, fascinated by the light, swim to it from every side and bob against the boat in helpless confusion. The number of birds secured depends only on the caliber of the gun. From twenty to thirty ducks to each shot fired is a common experience. The hunter who uses one of these reflectors may succeed in getting into half a dozen "beds" in a night. Another thing he sometimes succeeds in is getting a charge of shot in his body from some indignant sportsman on shore. If a rifle is handy and any one chances to be up and about at the hour, no hesitation is felt at having a crack at the "pot-hunter's" nefarious light.

Accepting an invitation for a day's duck-shooting at B.'s gave



OUR QUARTERS.

me a personal experience of one of the best "shores" in Maryland. Seated in a good, serviceable wagon, our party of three left Baltimore in the afternoon, and a brisk trot of two hours and a half over roads for the most part in excellent condition brought us to the ducking-shore on Bush River. The last mile or so was through the "woods" over a comparatively new road with water on each side of it, the surrounding ground being evidently in a marshy condition. The undergrowth was very thick and young, as if it were taking the place of a forest recently destroyed by fire. There were, however, plenty of tall gum-trees, chestnuts, and pines, and it was, as B. enthusiastically described it, while pointing to the track of an animal in the road, a splendid spot for 'coons and 'possums. We drew out shortly into a clearing, on the other side of which was a house and some out-buildings, the only habitation in sight or within a considerable distance. The barking of innumerable dogs welcomed our approach, and as we pulled up in front of the door, the river, about four hundred yards in width, came into view just in the rear. It was evidently the establishment of a plain, comfortable farmer, whose guardianship of the ducking and fishing doubtless greatly diminished the annual rental to the owner. Our "traps" were soon inside and the horses stabled. We had one large room containing six small and well-kept beds, and at one end a capacious fire-place, on which a great pile of hickory logs was burning and diffusing a genial glow and the not disagreeable odor of a wood fire. On the ceiling were

fishing-rods, nets, and tackle of every description; while around the walls were gun-racks, clothing, and hunting paraphernalia in profusion. At seven o'clock, a substantial and well-cooked dinner or supper was served in the adjoining kitchen, to which our farmer sat down with us. The conversation related chiefly to some recent incidents of 'coon-hunting, and a discussion as to the probable direction of the wind in the morning. Apprehensions of a north-west wind were expressed, but the general idea was that it would blow up from the south-west with snow or rain, in which case the ducks would be plentiful. After half an hour spent in selecting guns, filling cartridge-belts and satchels, and in other preparations, we turned in at nine o'clock, and, although the hour was somewhat unusual to me, I slept soundly. At three o'clock, our farmer came in and called us and lit the lamp. Breakfast—beefsteak, rashers of bacon, eggs, and coffee—was already sputtering and crackling in the kitchen. A hasty dowse of water with an eighth of an inch of ice on its surface, and a liberal "nip" of whisky,—the latter insisted upon for sanitary reasons of obscure origin but evidently great weight,—and we sat down. Either there was something in the air or the spirits were at the bottom of it, but at any rate the heavy supper of the previous evening seemed entirely forgotten, and the quantity of breakfast consumed was amazing. We were out in the sharp, frosty air and



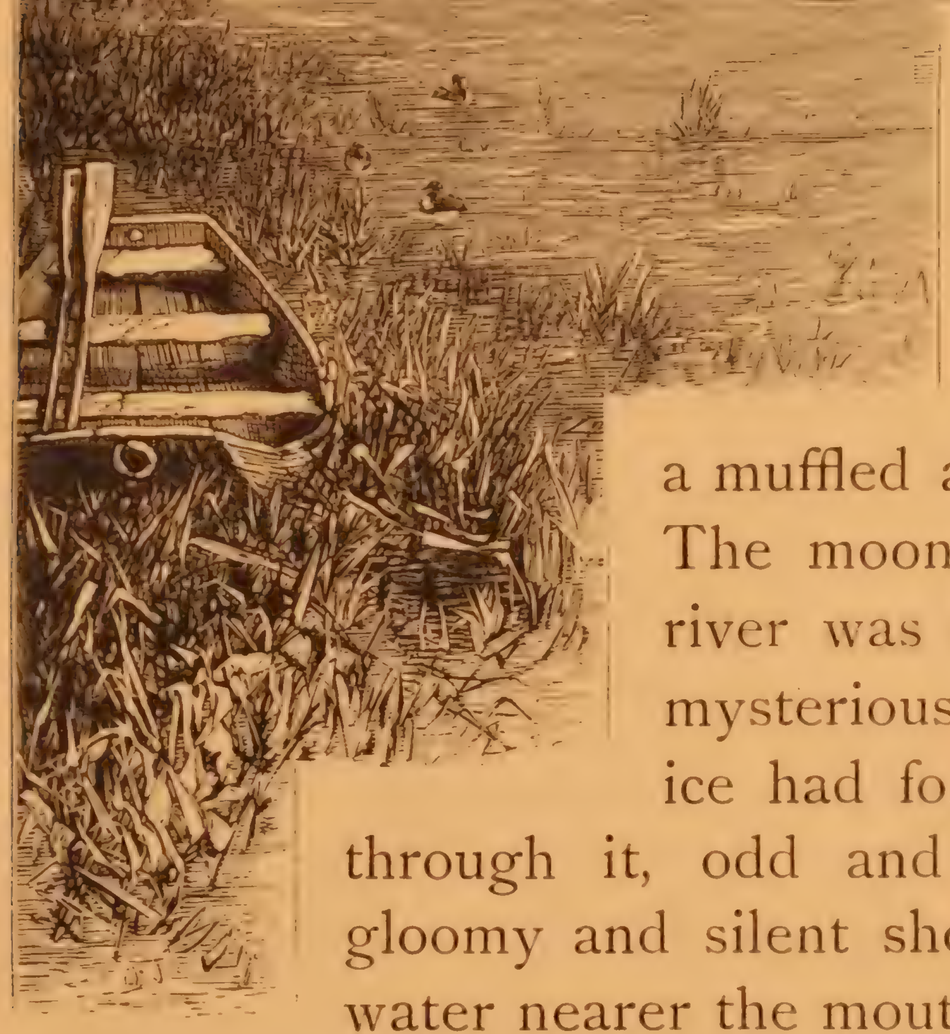
ROWING DOWN TO THE BLIND, 4.30 A. M.

bright moonlight at a quarter to four o'clock, excellently fortified to meet the demands of the day and the rigor of the weather.

It was but a few yards from the house to the water, and we had a row of a mile and a half to the "blind." We got into a good, steady, flat-bottomed boat, in which two dogs, whom no one had



BLIND AT BIDDISON'S POINT, ON MIDDLE RIVER.



called, took their places in perfunctory and solemn fashion, and we shoved off, while about a dozen hounds and yard-dogs howled a muffled and anxious adieu from the bank. The moon hung low near the tree-tops, the river was dark, and its outlines black and mysterious. About a quarter of an inch of ice had formed, and as we crashed steadily through it, odd and fantastic echoes came from the gloomy and silent shores. As we reached the broader water nearer the mouth of the creek the ice disappeared, but the surface was calm and nowhere gave back a reflection of the moon. M. was in the bow and I in the stern, our host, B., rowing in the middle. Suddenly he stopped, seized his gun and loaded it. M. did the same; I was too mystified to understand the proceeding, and was content to wonder and look on, peering around in the gloom to find the occasion, and seeing nothing but the impenetrable shadows and the undefined depths of the dark shore.

"Hist!" said B. "There is where they are," and taking his gun between his knees, he pulled a few strong, quiet strokes again. In a moment there was a most astonishing and startling noise, and I saw, about five hundred yards to the right, a long line of bright silver break upon the water. Thousands of ducks that had made a great "bed" in the creek during the night had been startled and were taking wing simultaneously, and the noise made by their splashing as they rose was tremendous. Presently, as the last duck

lifted into the air, it ceased, and all was as silent as before. Not a duck could be seen; but my two friends had their guns cocked and were apparently listening intently. In a minute I heard a curious, whistling sound. It grew louder and seemed to approach, but I could see nothing whatever. As I looked, both my companions brought up their guns and fired both barrels almost simultaneously overhead.

"Hush!" said B. "Listen carefully. Mark one! Mark two! Mark three!"

I heard the splashes, and as the birds, falling, broke the water, it faintly caught up the moonlight, and we could see three ducks struggling not one hundred yards off; at the same moment both dogs, without an order from any one, disappeared overboard.

"How did you know where to fire?" I asked.

"You are not used to it yet," replied B. "When you are, you'll see ducks easily enough on the darkest night."

The ducks, on rising, had wheeled around, making a semicircle of half a mile, and, as my friends' experience led them to expect, had come directly down the river. There were thousands of them in the air, and the whistling sound was made by their wings. In the meantime, both dogs came up to the side to be taken in. Each had a red-head in his mouth; the third bird having died, could not be detected in the darkness, and was abandoned.

A further pull of some ten minutes brought us to the blind, inside of which we found Joe, the darkey who had put out the decoys during the night. He was fast asleep in the straw, though the thermometer was below freezing-point. He took our boat and rowed it away out of sight around the nearest point, and then returning, lay down by the dogs and went to sleep again. We seated ourselves to wait for day-break and ducks, and I endeavored to persuade myself that I was not cold. My companions spoke in hushed ecstasy of the south-west wind that blew up the river as the moon went down. It struck me as the coldest wind I had ever known, and I drew my hands up my sleeves and made a manful effort to keep my teeth from chattering. A gray light stole across the eastern sky, and I began to see the *canards* riding at anchor in front of our blind. I was undeniably cold, and it was all I could do to keep from confessing to myself that I felt miserable. Besides, my companions had



OVER THE DECOYS.

been whispering dismal experiences of whole days in blinds without a solitary shot, and I began to despise the whole business. The blind became a dry-goods box in a bush, and the decoys an unblushing and unworthy device, and I could have readily proclaimed the whole thing unsportsmanlike and disgraceful, had there been a spark of encouragement in the demeanor of even sleepy Joe. The gray light grew brighter, and a blue, hazy "smoke" seemed to creep up the river as day dawned over the cold water. Presently, we heard a shrilly, feeble whistle, precisely such as the young puddle-duck of the barn-yard makes in his earliest vocal efforts. "Bald-pates!" said B.; and overhead, far out of reach, we saw four ducks. "There'll be lots of them now," said B. "They are coming up the river before the wind. H'sh! mark, mark, now quiet everybody!" Right out of the blue smoke, coming directly toward our blind, came not less than two hundred black-heads. On they came, straight toward the decoys. Within a hundred yards of our noses, the leader swerved, and out they all went, not one coming within gunshot. Before I could give way to my disappointment, B. gave his warning again. "Mark, mark, a bunch of canvas-backs!" and from the same direction, flying within a foot or two of the water, came some twenty ducks. They saw the decoy flock, turned in, and in a moment

more were hovering within a few inches of the wooden heads. All three stood up, and as the ducks hung fluttering, six barrels were poured into them, and one, two, four, six, eight, and another—no—yes—no—yes—*nine* ducks tumbled into the water, and splashed and floundered around in their death agonies. While it would be impossible for me to swear that I had hit one, I had an abiding consciousness that at least four of the birds were mine, and I became wholly oblivious of the temperature. "Mark again!" said the keen-sighted and watchful B. "Mark single duck coming right in. Now, sir, take him, he's your first choice! Now, sir! * * * Good, sir, by gracious!" I had tumbled that single duck over like a professor. To say that I was delighted will not do. I was excited; I was wild, and I began to mark invisible ducks myself. "Good sport?" said B. "Gorgeous!" said I. "Yes," said B.; "it generally drives a man crazy, the first day of good shooting he gets, and then we have to take him up here in the woods and tie him to a tree till he calms down, and is fit to be allowed back in the blind." I did not think I was so excited, but I soothed myself. But by this time it was almost sunrise, and we could see ducks coming up the river in countless numbers. Presently, a large flock left the middle of the stream and swept out about half a mile below into a broad bay. At first, it seemed as if they would "bed" there, but they turned and headed for the blind. We crouched low, and scarcely dared to breathe lest they should swerve out into the stream again. On they came like a whirlwind, and were fluttering and splashing on the decoys as we rose and fired six barrels into the thickest part of them. Not less than twenty canvas-backs and red-heads fell, and, as some, only disabled, tried to swim away, a few more shots made sure of them.

"Mark, gemmen, mark!" said Joe, holding down the dogs, and "whir" came a flock of bald-pates right over us from behind. B., who shoots from his left shoulder, had his gun up in an instant and fired both barrels overhead, and two large, heavy birds fell wounded outside the line of the decoys. Neither M. nor myself had been quick enough. "Now, Joe, said B., "out with you; quick!" Joe let go the dogs and dived under the blind, and in a moment more was paddling out and picking up duck after duck with his little canoe. Here came in the office of the dogs, whose wonderful instinct and training and perfect experience constitute one of the most astonish-



JOE.

ing examples of animal intelligence that one may see. They were not, in appearance, dogs that would attract any special attention. They belonged to the breed known as Chesapeake duck-dogs, and they certainly showed that retrieving ducks was their vocation. They went out straight through some thirty birds, in and around the decoys, toward the two bald-pates, which, only slightly disabled, were swimming rapidly away. Each dog selected his bird and went for it steadily. As the dog drew near, down went the duck. The dog stopped, and, as it were, stood up in the water, turning slowly around in a circle looking for the duck to re-appear. The moment it came up he went for it again. This time he got nearer. The same thing was repeated, the dog each time waiting patiently for the duck's re-appearance, and each time getting nearer and nearer to it. Finally, with a sudden dash and a partial dive, each dog seized his duck, and turning, swam to shore with it. They would not trouble themselves with the ducks that Joe could secure, but selected those that required their particular attention, swimming after each not less than a quarter of a mile. When a shot is fired and a duck falls, a

dog trained as these were will, unless forbidden, leave the blind immediately and secure the bird. If no duck falls the dog lies down again, invariably using his own judgment as to the result of the shot. He will never stir without express orders, if he thinks the shot has been ineffectual. The breed is peculiar to these waters. It is adapted to the cold water, and has been cultivated for years, and is greatly prized by the sportsmen of Maryland.

As much interest is now taken in this remarkable breed of dogs, we will give a few quotations about it, taken from "The Dog and the Sportsman," by T. S. Skinner, former editor of the "Turf Register," etc., Philadelphia, 1845. In this book, the first published in this country on the dog, game, and the gun,—and now quite scarce,—is the first account of the origin of this breed. These quotations will put the reader in possession of the *ancient history* of the Chesapeake Bay dog—[EDITOR].

"As to this stock, besides the best of them being still red or black, there are other reasons for assuming that those most esteemed have descended from, and still partake distinctly of, the blood and traits of a pair of these colors, brought directly, male and female, from Newfoundland to Maryland, nearly forty years ago. Of that importation, we are glad to have it in our power to preserve the following authentic memoir, furnished, at our instance, by the importer himself, a gentleman who possesses, as all his friends know, an instinctive fondness for good dogs and *good deeds*:

"'BALTIMORE, MARYLAND, January 7, 1845.

"'*My Dear Sir*: In the fall of 1807 I was on board of the ship *Canton*, belonging to my uncle, the late Hugh Thompson, of Baltimore, when we fell in, at sea, near the termination of a very heavy equinoctial gale, with an English brig in a sinking condition, and took off the crew. The brig was loaded with cod-fish, and was bound to Poole, in England, from Newfoundland. I boarded her, in command of a boat from the *Canton*, which was sent to take off the English crew, the brig's own boats having been all swept away, and her crew in a state of intoxication. I found on board of her two Newfoundland pups, male and female, which I saved, and subsequently, on landing the English crew at Norfolk, our own destination being Baltimore, I purchased these two pups of the English captain for a guinea apiece. Being bound again to sea, I gave the dog-pup, which was called Sailor, to Mr. John Mercer, of West River, and the slut-pup, which was called Canton, to Dr. James Stewart, of Sparrow's Point. The history which the English captain gave me of these pups was, that the owner of his brig was extensively engaged in the Newfoundland trade, and had directed his correspondent to select and send him a pair of pups of the most approved Newfoundland breed, but of different families, and that the pair I purchased of him were selected under this order. The dog was of a dingy red color and the slut black. They were not large; their hair was short, but very thick coated; they had dew-claws. Both attained great reputation as water-dogs. They were most sagacious in everything, particularly in all duties connected with *duck-shooting*. Governor Lloyd exchanged a

merino ram for the dog, at the time of the merino fever, when such rams were selling for many hundred dollars, and took him over to his estate on the eastern shore of Maryland, where his progeny were well known for many years after, and may still be known there and on the western shore as the *Sailor breed.* The slut remained at Sparrow's Point till her death, and her progeny were and are still well known through Patapsco Neck, on the Gunpowder, and up the bay, amongst the duck-shooters, as unsurpassed for their purposes.. I have heard both Doctor Stewart and Mr. Mercer relate most extraordinary instances of the sagacity and performance of both dog and slut, and would refer you to their friends for such particulars as I am unable, at this distance of time, to recollect with sufficient accuracy to repeat.

"'Yours, in haste,

"'GEORGE LAW.'

"On inquiry, since the date of the above, of Mr. Mercer and of Dr. J. Stewart, it is ascertained of the former, who owned Sailor, that 'he was of fine size and figure—lofty in his carriage, and built for strength and activity; remarkably muscular and broad across the hips and breast; head large, but not out of proportion; muzzle rather larger than is common with that race of dog; his color a dingy red, with some white on the face and breast; his coat short *and smooth, but uncommonly thick,* and more like a coarse *fur* than hair; tail full, with long hair, and always carried very high. His eyes were very peculiar; they were so *light* as to have almost an unnatural appearance, something resembling what is termed a *wall* eye in a horse; and it is remarkable that in a visit which I made to the eastern shore, nearly twenty years after he was sent there, in a sloop which had been sent expressly for him, to West River, by Governor Lloyd, I saw many of his descendants who were marked with this peculiarity.'

"Does it not seem to be a characteristic of the best water-dogs that, like the eagle and the owl, the lion and the cat, and other birds and beasts of prey whose condition and habits require extraordinary powers of vision, as does the dog when swimming in pursuit of ducks at a great distance, that they should have eyes of a yellow or, at least, of an uncommon, not black, color?

* * * "Were old Varnell (the trusted servant and duck-shooter of that venerable and high-spirited patriot, Doctor J. Stewart) still alive, he could relate many most extraordinary feats performed by Cånton at Sparrow's Point. She surpassed her species generally in unrivaled devotion to the water and to the sport of ducking, as carried on by the old Doctor's colored man, Varnell, with his murderous *swivel gun!* Her patience and endurance of fatigue seemed *almost* incredible, and her performances would be best illustrated by taking down, from the old Doctor and others, who remember them, the facts of her fights with wounded swans, after pursuing them in the water for miles. Also her extraordinary pursuit of wounded ducks, amongst rotten and floating ice, and sometimes in fogs and darkness. On one occasion, she brought out 22 or 23 ducks, all killed or wounded by Varnell at a single shot. A good deal of time was lost in pursuing these wounded ducks, and at the close of this pursuit, it being then dark, Varnell gave up the slut as lost, so many hours had she been engaged in bringing out her game; but after Varnell had sorrowfully turned his face homeward, she overtook him with one or two ducks in her mouth; and the old Doctor remembers hearing Varnell say, that at one time, when she was most



INTERRUPTED PILGRIMS.

fatigued, she climbed on a cake of floating ice, and after resting herself on it, she renewed her pursuit of the ducks.

* * * "In their descendants, even to the present remote generation, the fine qualities of the original pair are conspicuously preserved, in spite of occasional stains of inferior blood. * * * There is one now (Leo) at Maxwell's Point, on the Gunpowder River, in Maryland, a descendant of Sailor, through a slut pup of his, who deserves to be named as a noble specimen of his tribe. * * * Leo stands in height from 20 to 22 inches; black, with a small white spot on his breast, and a little white on each foot; his eyes, again, *yellow!* His form is something after the model of the setter, without his feathery tail, or the smooth one of the pointer; not so deep in the chest as the setter, but rounder in his body, and larger in the neck, with his ears smaller and more set up, and the tips of them turning down. His hair not exactly long, yet further from being short; with a woolly under-jacket to protect his skin from the water, for he has often to make his way through the ice. Such is the *personnel* of Leo—a dog

"'Whose honest heart is still his master's own,
Who labors, fights, lives, breathes for him alone.'

"Many anecdotes might be related in proof of his reasoning powers; but we have room only to add, in general terms, that he comes *fully up to the line of his*

duty. Of how few bipeds can we say as much? When ducks are passing over, he takes his stand with his master, his fore-feet resting on the blind, and, still as a mouse, he watches not the gun, nor anything but the game as it approaches; and listening to hear the shot strike, the moment a duck is seen to falter in its flight as it falls, the good dog plunges in the river like a ball from a cannon, and, from whatever distance, brings the duck and lays it at the feet of his master. He has been known to bring out as many as three at a time, and has the sagacity, when some are only crippled and in danger of being lost, to give to them first a finishing *grip*, leaving such as are stone dead to be secured at leisure. When a duck dives to escape him, it is curious to see how he will stand erect, head and shoulders out of water, watching in all directions for its re-appearance. Such are the offices, such the achievements, of the high-bred water-dog of the Chesapeake Bay and the noble estuaries that commingle in its bosom.

"Three types of the Chesapeake Bay dog are now recognized: (1.) The Otter breed: color, tawny sedge; hair, very short. (2.) The Red Winchester: hair, long. (3.) The red-brown, with a curly coat. A white spot on the breast is not unusual in the three types.

"Measurements: From fore-toe to top of back, 25 inches; from tip of nose to base of head, 10 inches; girth of body back of fore-leg, 33 inches; breast, 9 inches; around fore-feet, 6 inches; around fore-arm below shoulder, 7 inches; between eyes, 2¼ inches; length of ears, 5 inches; from base of head to root of tail, 35 inches; tail, 16 inches; around the muzzle below eyes, 10 inches."

By nine o'clock we had ninety-six fine ducks in our blind, and a very handsome and imposing-looking lot of game, indeed, they made. After that hour the ducks ceased "trading," as flying from one point to another is termed, and began to form great beds of countless thousands out in the open water. As far as the eye could reach, the middle of the stream and the broad water of the river below were covered with them. There were literally acres of ducks of all kinds; but "trading" was at an end, and shooting, except of an occasional single or stray duck, was temporarily suspended.

"Well," said B., "I suppose, now, you'd like to see some duck-tolling?"

"I'd like to be told," I replied, "what tolling is."

B. declined to explain, and said the only way to find out was to see it for oneself. It was determined to go over to Cold Spring, and as a walk of half a mile across one of these peninsulas will take one from one estuary to another, we shouldered our guns and were soon in sight of it. It was just such another sheet of water as we had left, with woods growing thickly down to a sandy shore. We

walked leisurely over, and Joe, having gone to his cabin for a young spaniel in his keeping, overtook us. Cold Spring was full of ducks, but they were all "bedded" far out from the shore. We made for a sheltered cove, and were shortly crawling on our hands and knees through the calamus and dry, yellow-tufted marsh-grass, which made a good cover almost to the water's edge. Joe left the dogs with us, and, going back into the woods, presently returned with his hat full of chips from the stump of a tree that had been felled. The ducks were swimming slowly up before the wind, and it seemed possible that a large body of them might pass within a few hundred yards of where we were. The two dogs, Rollo and Jim, lay down close behind us, and Joe, lying flat behind a thick tuft a few yards to our right, and about fifteen feet from the water's edge, had his hat full of chips and held the young spaniel beside him. All remained perfectly quiet and watched the ducks. After nearly three-quarters of an hour's patient waiting, we saw a large body of ducks gradually drifting in toward our cove. They were between three and four hundred yards away, when B. said:

"Try them now, Joe! Now, boys, be ready, and don't move a muscle until I say fire!"

Then Joe commenced tolling the ducks. He threw a chip into the water, and let his dog go. The spaniel skipped eagerly in with unbounded manifestations of delight. I thought it for a moment a great piece of carelessness on Joe's part. But in went another chip just at the shallow edge, and the spaniel entered into the fun with the greatest zest imaginable. Joe kept on throwing his chips, first to the right and then to the left, and the more he threw, the more gayly the dog played. For twenty minutes I watched this mysterious and seemingly purposeless performance, but presently, looking toward the ducks, I noticed that a few coots had left the main body and had headed toward the dog. Even at that distance, I could see that they were attracted by his actions. They were soon followed by other coots, and, after a minute or two, a few large ducks came out from the bed and joined them. Others followed these, and then there were successive defections of rapidly increasing numbers. Several ducks stood up in the water by the aid of their wings, sustained themselves a moment, and, sitting down, swam rapidly around in involved circles, betraying the greatest excitement. And



A TOLL OF DUCKS COMING IN.

still the dog played, and played, and gamboled in graceful fashion after Joe's chips. By this time the ducks were not over two hundred yards away, and, taking heart of their numbers, were approaching rapidly, showing in all their actions the liveliest curiosity. It was an astonishing and most interesting spectacle to see them marshaling about, to see long lines stand up out of the water, to note their fatuous excitement, and the fidelity with which the dog kept to his deceitful antics, never breaking the spell by a fatal bark or a disturbing movement. The more wildly he played, the more erratic grew the actions of the ducks. They deployed from right to left, retreated and advanced, whirled in companies, and crossed and recrossed one another. Stragglers hurried up from the rear, and bunches from the main bed came fluttering and pushing through to the front to see what it was all about. By this time the nearest skirmishers were not a hundred yards off, and as Joe threw the chips to right or left and the dog wheeled after them, so would the ducks immediately wheel from side to side. On they came until

some were about thirty yards away. These held back, while the ungovernable curiosity of those behind made them push forward until the dog had a closely packed audience of over a thousand ducks gathered in front of him.

"Fire!" said B., and the spectacle ended in havoc and slaughter. We gave them the first barrel sitting, and, as they rose, the second.



DIVIDING THE SPOILS.

We got thirty-nine canvas-backs and red-heads and some half dozen coots.

Another way of "tolling" ducks, said to be very effectual, is with a gorgeous yellow-and-red bandana handkerchief, waved above the grass and rushes on a stick. Ducks will walk right up on shore to examine it and pay the penalty of their curiosity. The canvas-back has the bump of inquisitiveness more largely developed than any other wild variety.

J. S. Skinner, in "The Dog and the Sportsman," Phila., 1845, gives the following account of the origin of this singular method of decoying ducks—[EDITOR]:

"More than forty years ago (1805), this curious mode of getting ducks is said to have had its commencement near Havre de Grace, Maryland.

"Tradition says the discovery was made by a sportsman who, patiently waiting for a body of ducks to feed within gun-shot (as was then the only chance of getting a shot at them on the water), saw them suddenly raise their heads and swim directly for the shore. On looking for the cause of this strange maneuver, he found they were decoyed by a red fox playing on the shore.

"An active, sprightly dog is generally selected for this service. * * * The only act necessary is to keep your dog in constant motion; a red color is best, and a long bushy tail of great advantage.

"The canvas-back and red-heads are the best to tole, and they appear to be differently operated on. The former comes to the dog with head erect, sitting high on the water, and when near you has, if I may use the expression, a kind of idiotic look in the eye, whereas the latter are more sunk in the water, and appear unconscious of their approach to the shore."

Upon the table the canvas-back makes a royal dish, though few can distinguish between it and the red-head when both are in season. Only those very familiar with the birds can tell which is which when alive, and, when served, it becomes almost an impossibility. The celery flavor is more marked in the canvas-back in the best of the season. It is seldom served precisely as it should be anywhere out of Maryland. If allowed to remain in the oven five minutes too long it is unfit for the table. A great deal also depends upon the carving. A good, quick oven will cook a full-sized duck in twenty-two minutes. It should never remain in over twenty-five. After a duck is picked and drawn, it should be simply wiped dry. Water should never touch it, and it should be fairly seasoned before going to the fire.* When done, the birds should be placed in pairs in hot, dry dishes. There is no need to prepare a gravy: immediately they are cut they will fill the dish with the richest gravy that ever was tasted. One canvas-back to each "cover" is considered a fair allow-

* "P. S. HOW TO COOK A CANVAS-BACK.—Take it as soon after the '*leaden messenger*' brings it down as possible, even while it is yet warm, if it can be so, and cook it in a 'tin kitchen,' turning and basting it frequently with a gravy composed in the bottom of the oven with a little water and a grain of salt and its own drippings. The fire should be a brisk one (hickory the best), so that it may be done 'to a turn' in twenty-five or, at most, thirty minutes. Serve it up immediately in its own gravy, with

ance at a Maryland table, but when the bird is only an incident of the dinner or supper, of course half a bird is sufficient for each person. Slicing the bird is unheard of. The two-pronged fork is inserted diagonally astride the breast-bone, and the knife lays half of the bird on each side, leaving the "carcass" on the fork between. The triangle of meat an inch thick comprised between the leg and



IN THE LARDER.

the wing, with its apex at the back and its base at the breast, is considered the most delicious morsel of meat that exists. The canvas-back in Maryland is served with large hominy fried in cakes, celery, and a dry champagne, or a bottle of Burgundy that is Burgundy.

Terrapin, in the order of dishes, precedes the duck at the table. In Baltimore, it is a great lenten dish, devout and wealthy Catholics finding that it greatly facilitates the observance of the "regulations." It is singular that it should appear to be exempt from the church prohibition, for when on the table it would be hard to define

a dish of nice, well boiled (and then fried) milk-white *hominy;* and then, if it may so happen, with Cadwallader's old 'butler' at your elbow. If such fare do not

> "'Raze out the written troubles of the brain,'
> And dispose the partaker to love his neighbor as himself,
> And thank Providence for all its bounties,
> "Oh, bear him to some distant shore,
> Some solitary cell,
> Where none but savage monsters roar,
> Where love ne'er deigns to dwell."

[From "The Dog and the Sportsman," by J. S. Skinner, Philadelphia, 1845.]

it as anything but very positive meat. It is certainly quite as much meat as a broiled leg of a frog. Terrapins are worth from $25 to $36 a dozen during the season. A dozen terrapins consists of twelve "diamond-backs," no one of which measures less than seven inches in length on the under shell. A seven-inch terrapin is called a "count-



POSTHUMOUS MIGRATION.

terrapin," and anything smaller is not counted. The largest known do not exceed ten inches in length and eight pounds in weight; and such are extremely rare. The seven-inch terrapin averages four pounds in weight. "Sliders," the common river turtles of almost all the rivers of the region, grow to a much larger size. They sell at from $6 to $9 a dozen, and are largely used by hotels and restaurants, where they are retailed at $1 and $1.25 a dish as genuine diamond-back terrapin. It is next to impossible to get a genuine dish of terrapin at a public house. The one or two people controlling the trade say they sell almost exclusively for private tables.

Terrapin are caught all the way from Savannah and Charleston to the Patapsco River, at Baltimore, but the genuine diamond-back belongs only to the upper Chesapeake and its tributaries. The majority of the sliders are brought to Baltimore from the James River. The terrapin-catchers make from $5 to $50 per week, and they find the reptile, or "bird," as the *bon vivant* calls it, by probing the mud in the shallows with sticks. The terrapin is dormant, and



AFTER A GOOD DAY'S WORK.

when found is easily secured. A four-pound terrapin taken about September 15th will exist prosperously in a dark, cool place, without food or drink, until April 15th, and (the dealers say) will gain two ounces in weight. After that time it gets lively and active, and will take hold of a finger with great effusion and effectiveness. The male terrapin is known as a "bull" and the female as a "cow." The latter is much more highly prized, and generally contains about thirty eggs. No dish of terrapin is thought complete without being garnished with these. It is sad to be compelled to state that the sinful restaurateur and hotel man betakes him to the egg of the pigeon, wherewith to set off his counterfeit presentment of a noble reptile.

Thirty years ago, the largest dealer in Baltimore had hard work to dispose of the terrapin he received at $6 a dozen. The product, he tells me, is about the same, year in and year out. He sells as many now as he did then. But old people on the eastern peninsula bring to mind when of a warm day the terrapins, basking in shoals on the surface of the water, were caught in seines and fed to the pigs. That day, however, is of the past, and it is doubtful if this valuable article of food is not gradually becoming extinct. The negroes who

make a business of sending them to market complain of their increasing rarity, and nothing but the high price has stimulated them to keep up the supply.

The negroes are credited with having been the first to bring the virtues of the terrapin to notice. They cooked, and still cook it, by placing it alive among the hot coals or in an oven. When it is sufficiently cooked, the under shell is easily removed with a knife, and the contents are then eaten from the inverted upper shell, nothing being removed but the gall-sac. There are many, particularly epicures of



A TERRAPIN HUNTER'S HOME.

long experience with the terrapin, who maintain that this is the true way to cook it. One noted for his knowledge of Maryland dishes invariably cooks his terrapin as follows: He places a "count," alive, on its back in an old-fashioned ten-plate stove, roasts it until the under shell is easily detached, removes the gall, adds a little butter, salt, and a glass of good sherry or madeira, and then eats it, with a sense as of a Mussulman discounting the delights of the seventh heaven. He has never met Mr. Bergh.

Baltimore consumes most of the terrapins caught. Large numbers are shipped to New York. Delmonico is a good customer of the Baltimore market, and Scoggins's game and terrapin dépôt is seldom without a box or two addressed to the New York restaurant. With all due respect for a New York *cuisine*, neither the terrapin nor the canvas-back is ever the same when eaten away from, so to speak, its native heath. There is an indefinable halo of originality about Maryland cookery, wholly independent of the process just delicately alluded to in connection with terrapin, that obtains nowhere else. A Maryland dinner is simplicity itself, but it would tax the capacity of the "best men" of a New York club.

Washington eats more fish than any other city in the United States in proportion to its population, but Baltimore probably eats

more good things generally. There is a sort of refined barbarism about such a *menu* as that of a plain winter dinner in Maryland that would doubtless vex Mr. Felix Deliée and his confrères of that august fraternity, the *cordons bleus* of New York. Here it is, without any of the "illusions" in which a French artist would so like to enshroud it: "Four small oysters from Lynhaven Bay (once opened, they would never again be inclosed in the self-same shell); terrapin *à la* Maryland; canvas-back ducks; a small salad of crab and lettuce. Vegetables:—baked Irish potatoes; fried hominy cakes, and plain celery." If this shall have been attended by adventitious circumstances, it will put the artificialities of refined cookery of the exalted order entirely to the blush.



TERRAPIN FOR THREE.

A DAY WITH THE RAILS.

By ALFRED M. MAYER.

SOON after the Christmas holidays, sport with dog and gun ceases, and has become a matter for reveries before the evening fire, where scene after scene comes and goes with the involuntary action of the mind, as it recalls those happy days of sport with congenial and manly friends. What a refreshment the mind thus takes to itself! What a respite are these reveries from the weariness of routine and the emptiness and heartlessness of conventional life! The pleasures of the sportsman do not end with his sport, no more than the murmurs of the rivulet we heard last summer in the depths of the forests cease to soothe us because now silenced in the death of winter.

With the cool evenings of September the sportsman is reminded of the approaching fall, and bethinks himself of what he can do to satisfy his longing for his favorite pastime. He recollects that now the wild oats are turning yellow and their ripened heads are waving over the marshes and borders of our tidal rivers. Here the Soras, or Carolina rails, are fattening into delicious morsels. It is true the sport is tame compared with shooting bob white or woodcock over "Billy's" sure and steady point; but the gun has not been handled for eight months, and our friend thinks the practice will be an easy introduction to his November shooting; and then his boy, who can already hold his gun pretty well on clay pigeons, wishes to try his Christmas gift on real birds, and what can be better for his first lesson in wing-shooting than a day with the rails among the high, waving water-oats? He will surely bring many birds to bag, and he will ever remember in after-life the pride and pleasure he had

when, on reaching home, with beaming face he hastened to present his mother with his first bag of real game.

When they reached the tavern on the border of the river, they were greeted with the honest laugh of the innkeeper and hearty shakes of the hands by the "pushers," who rose from their seat on the veranda to welcome the gentleman so well known to them; for he had spent many seasons in shooting over these marshes. After much talk about the time of high water, the various places where rail were most likely to be abundant, and the successes of those sportsmen who had just left for home, two pushers were engaged to be in readiness soon after dinner, for the shooting-ground selected (if ground it may be called) was over three miles distant. The pushers came soon after the youth had unpacked the guns and cartridges, had donned his shooting-jacket, and had got his father's "traps" in shape to be handily carried to the boats. I strongly suspect that these preparations had so fired the imagination of the youngster with anticipated sport that he had not had so much real pleasure in a twelvemonth. He met the pushers as they reached the river-bank. The two boats he there saw were flat-bottomed, pointed at the bow, with a broad stern in which was a roomy seat for the pusher to stand on while he plied his "gaff." This is the name given to the pushing-pole, from twelve to fifteen feet long, and fashioned at one end somewhat like the gaff to which is fastened "the head" of the mainsail of a sloop. In one of the boats was another form of gaff, whose end was more like a large gun-stock. Both gaffs were quite broad, so that in crossing small spaces of open and deep water the pusher can use them quite effectively as paddles.

In the bow of each boat was a good-sized basket, covered with a canvas flap, and holding a large cigar-box containing a hundred or more of cartridges. This box was tied with its upper edge nearly in a line with the top of the basket. This arrangement left the bottom and nearly all of the space in the basket free for the birds; and the canvas cover shielded these from the sun and the cartridges from the wet.

Before starting, the father instructed his son to take a score or so of cartridges and put them in the roomy right-hand pocket of his shooting-jacket, explaining that they would thus be in the most

convenient position in loading; for, on opening the gun, the right hand unlocks the breech-action while the left holds the gun with a grasp around the barrels and fore-end. Thus the right hand is free to extract the exploded shells and to take the cartridges from the pocket and slip them into the breech chambers without it being necessary to relieve the left hand's grasp on the gun. Also, as soon as the gun is loaded, the left hand is in position to bring the gun to the shoulder for aim and fire. Much of the success of rail-shooting depends on the rapidity with which the gunner can take advantage of shots presented by numbers of birds rising in rapid succession.

In the bottom of the boats were several blocks of wood painted white. The uses of these the young sportsman soon found out.

Before starting, they wrapped around the calf of their right legs several folds of thick flannel. This was to act as a sort of buffer to rest against the edge of the seat just forward of midship, before which they were to stand in shooting. The calf of the right leg rested against it, with the left leg placed well forward, but all without any stiffness of posture. When the boat is shoved forward by the pusher, it moves through the resisting oats with a sort of jerk, and the calf of the right leg of the gunner is thrown at each push back against the edge of the seat which braces him. The wearing of the flannel, though not absolutely necessary, and by some probably regarded as effeminate, will add greatly to the comfort of a day's shooting, in the course of which the leg receives a great many rubs and thumps.

During the trip to the shooting-grounds, the pusher, who was now also guardian and instructor to the son of an old patron, laid down various precepts which the youngster was to follow in rail-shooting, interspersed with many interesting anecdotes illustrating the curious habits of these interesting little birds. He told his pupil that he must stand at ease, with his legs not too stiff, so that he should preserve an upright position; and that he must keep his feet steadily in one position while he was ready with his gun to shoot; that he must be quick with his gun, for a bird would often rise at twenty yards or more away and merely flit up, and then drop down in the oats; but that he must let a bird get off some dis-



MALE AND FEMALE RAIL.

DRAWN BY JAMES C. BEARD.

tance if he was flushed quite near the boat, for otherwise his shot would blow him to pieces.

Arriving at the edge of the marsh, the pushers shipped their oars, and, plunging the broad butts of their gaffs into the mud, with strong and skillful arms they sent the boats into the midst of the water-oats.

As they entered the oats, the youth stood up in the boat, and was gazing with that steady, wide-awake, and all-around look so well known to those who have watched a sportsman in the act of flushing a bird. He held his gun with the muzzle pointing upward. His left hand was well forward on the fore-end, with the forefinger of his right under the trigger-guard. The pusher at once took in the pose, and saw that his father had been schooling him. The next instant a thrill was sent through the young sportsman as two birds sprung from the oats — one directly in front of him, the other on his left quarter. The first he fired at instantly and blew to pieces. In his haste to get the other, he shifted his left foot, tilted the boat, and then shot under the bird. The old pusher here stopped his boat, and, leaning on his gaff, said:

"Well! that's a good lesson. I had no idee you'd 'a' shewn off the good p'ints I give you so soon. I tell you ag'in to give the near bird time before shootin', and when you take a side shot don't take a step in dancin'. But the bird's 'a count,' so I'll jist find his head to show your father that you killed your first bird."

They had not gone over twenty yards farther when three rails sprung up. The first that caught the boy's eye was the one which, with a rather rapid rate, went to the right. This he fired at and missed. The other bird flew to the left, and this one he killed cleanly. The pusher "marked" and "boated" this bird, and then went for the bird first shot at. Though he had accurately marked him down, he failed to flush him on approaching the spot. The pusher said the rail had gone under the water and was no doubt quite near, clinging to a submerged stalk with his beak just above water, and that it was useless to try to flush him, for he would allow the boat to go over him before he would take wing. He said the rails often acted in this manner after they had been flushed and shot at, or when they had been slightly wounded. Sometimes, however, even when they had not been already flushed, they would remain perfectly



A PUSHER.

quiet till the boat had approached near them, and then would quickly swim to one side, in case the water was not too thickly studded with oat-stalks.

The next shots were at a flock of reed-birds, which rose in a compact cloud not twelve yards from the gunner. As he had been forewarned of their presence by the pusher, he was on his guard, and so reserved his fire till the birds were twenty yards distant, when, in quick succession, he emptied both barrels at them. The flock did not seem much diminished by his shots, and he was much surprised when, shortly afterward, the pusher and he had gathered in more than thirty birds—a dainty dinner. The pusher could not help expressing his surprise at the want of delight in the youth at such a record for his two shots, but gave a merry

chuckle, with "A chip of the old block," when the boy told him that he had rather kill one bird flying swiftly across than bring fifty to bag out of a flock.

"Mark! teal," said the pusher, as he caught sight of three blue-winged teal coming swiftly down the river.

The youth had just time to charge his gun with a cartridge of No. 4 shot, which he took out of his left-hand pocket, and to bring his gun to bear on the teal as they passed him on the left at about forty yards distant. Bang! and with quickened wings they passed unscathed.

"Why, I held directly on that rear bird," said the crest-fallen youth.

"If," said the pusher, "you had held directly on the leader, you might have killed the bird you fired at. You must hold two yards ahead of those birds flying across at that distance. Now sit down, and I'll take you to the other shore; but remember, it is there not sheltered from the wind as in this cove, among these hills and high trees, and the birds will fly faster, and it may be that, when the wind catches them, some of them will twist as they go, in a way like snipe."

And so it happened; the rail rising wildly and speeding away with astonishing rapidity for a bird generally so sluggish in flight. Here the youth met with many disappointments; but he was young and ambitious, and it does not take long for an intelligent youth to profit by failures—in the pursuit of pleasure.

"I've the knack of it now."

"Good shot!" said the pusher, as the youngster cleanly killed a cross-flying bird at thirty yards.

"Yes, I held over a foot ahead of him."

"That's right. Did you see the other bird scud across the river? Who would have thought that was a rail? You see how an easterly wind can make them go."

"I suppose," said the boy, "that's the way they fly when the first frost chills them, and they all leave between sunset and sunrise. Father says they migrate in the fall to great distances, going even beyond the southern borders of our country, to the West Indies, and that they have been known to alight on ships when over a hundred miles distant from the nearest land."



RAIL-SHOOTING.

With varying successes and failures, the youth shot till the tide had fallen so low that the birds had enough near ground to retreat to when the boat approached them and they would not take wing.

And thus ended the boy's first lesson in the marshes. To say he was proud, notwithstanding his lost teal, would do him injustice. He thought more of how happy he was to know that hereafter he could be a companion to his father when he ran away from the confusion and cares of the city for three or four days' relaxation in the brown autumn fields, or when he left in summer for two or three weeks' sojourn in the depths of the northern woods.

On entering the oats, the father's boat had taken a different direction from that of his son's, till they were separated by fifty yards or more. Thus no danger could ensue should the youngster, in the heat of sport, shoot toward his father. As a further precaution against danger, the youth's gun, a 16-gauge 6 lb. breech-loader, was charged with only 2 drachms of powder and ¾ oz. of No. 12 shot, the finest made, except "dust-shot." His father shot a 12-gauge gun, loaded with 2½ drachms of powder and 1 ounce of No. 10 shot. He also had in his boat another gun of 10-gauge, charged

with 4 drachms of powder and 1¼ ounces of No. 4 shot, in reserve, in case a flock of teals should spring up before him or fly overhead as they "traded" up or down the river. He had not gone far into the oats before the rail began to spring up above the tops of the oats, and then flutter away with drooping legs. Two rose in front of him, and he quickly cut them down. He had no sooner reloaded, when three birds rose, two of which fell to his aim. The pusher now threw two of his painted blocks to the spot where the first two fell, and pushed for the brace which had just tumbled. These were soon found, and he then sought his blocks on the right, and, finding these, he soon picked up the two rails quite near them.

Thus, without a miss, the father killed 29 birds; the 30th he lost by the boat taking a rapid jerk forward in water rather free of oats just as he discharged his gun. The result of his day's sport was 105 Carolina rails, brought to boat with 116 shots. He missed six birds, and the pusher failed to find five others which he killed. He also brought to bag five teals, three coots, and one king-rail.



EGG OF THE CAROLINA RAIL.

WILD TURKEY-SHOOTING.

By JAMES GORDON.

THE wild turkey, *Meleagris Gallopavo*, the noblest species of American game birds, is common throughout the South and West, and yet is so wild that its habits are but little known. The writer, although an experienced hunter, finds each year something new to learn concerning its peculiarities.

Our wild turkey takes little care in the preparation of a nest. I have often found them sitting on the bare ground in exposed positions. Yet they are very tenacious when sitting, and will allow a man to approach quite near before they will leave their eggs. It is generally believed that our domestic turkey owes its origin to our common wild turkey, *M. Gallopavo*. Even the great ornithologist Audubon falls into this error. Our domestic turkey is derived from the wild turkey of Mexico, *Meleagris Mexicana*, which is a coarser fowl than the wild turkey of America; but it is easily tamed, while the American turkey, like the Indian, is untameable. They can, indeed, be made quite gentle, when hatched by a barn-yard fowl and fed from the hand, but such is their propensity to ramble that they ultimately stray off and become wild again.

If you have never seen a wild turkey, do not take his plebeian cousin of the barn-yard for a model, for they are very unlike. His voice is as different as the crow of the game-cock from the Shanghai. The domestic turkey's gobble is coarse and disagreeable, while the gobble of the wild turkey is as shrill and clear as the note of a cavalry bugle. When heard at early dawn in the still forest, it is singularly sharp and piercing. It seems to strike upon the senses rather than upon the ear, penetrating the nerves of the hunter with a thrill of

pleasurable emotion. If you will come to the South and accompany me some morning in the spring, which is the gobbling season, we will seek his haunts. If there is a large creek bottom near, we will look for him there. We reach the foot of the hills at dawn; daylight is beginning to appear in the east, and the stars are fading from sight. Now, if there is one in hearing, we will make him gobble; this we do by imitating the hoot of the barred owl. Instantly a clear, rolling gobble responds,—"good-a, good-a, good-a, good-a, good,"—others reply, and for a mile above and below is heard the refrain.

To which one shall we go? We hoot again, and listen intently to the reply; then, selecting the fattest, proceed in his direction. You ask how we know which is the fattest? Not a difficult task at all for an experienced sportsman; the more shrill and sharp the gobble, the more fat there is on his breast; when the breast-sponge is not covered with fat, the gobble is hoarse and flabby. We stop occasionally to be sure of our course, as we slip forward as rapidly and noiselessly as possible. When near enough to hear his strut, we pause to listen. The woods, that before seemed so still, are now alive with noises. The whip-poor-will is wailing its plaintive song, and every bird, that was sleeping so quietly a few minutes ago, is now fussing around with the morning greetings to his drowsy mate. Concealed by the foliage of a wide beech, we peer through the misty shadows, and behold him standing on the limb of a lofty cypress. We watch him suck the air to inflate his windbag, then hear him emit a pulmonic puff and drum, and he immediately lowers his tail and wings. Many think the strut of the turkey-cock is made by scraping the tips of his flight feathers. This is a mistake; he merely touches the ground with the tips of his wings. The strut is made by forcing the air out of the windbag. He has selected his position in the cypress, because cypress brakes are always surrounded by water, which protects him from the approach of the wild-cat and coon, as they prowl about during the night; besides, anything wading in water makes a noise, and the turkey is a light sleeper. Be cautious, too, how you walk, for around these marshy sloughs the slimy moccasin and deadly cotton-mouth lie in their coils ready to strike their envenomed fangs into the foot of the intruder. Sometimes the turkey can be shot on his roost, and many are killed in this way, especially by hunters, who watch them fly up to roost, and

shoot them by moonlight. Not being afraid of cattle, they are easily approached after dark by a man with a cow-bell tied on his arm. It is now broad daylight, and as we are as near as we can get without frightening him, let us conceal ourselves until he flies down. He is roosting low; a fat gobbler does not like to fly high.

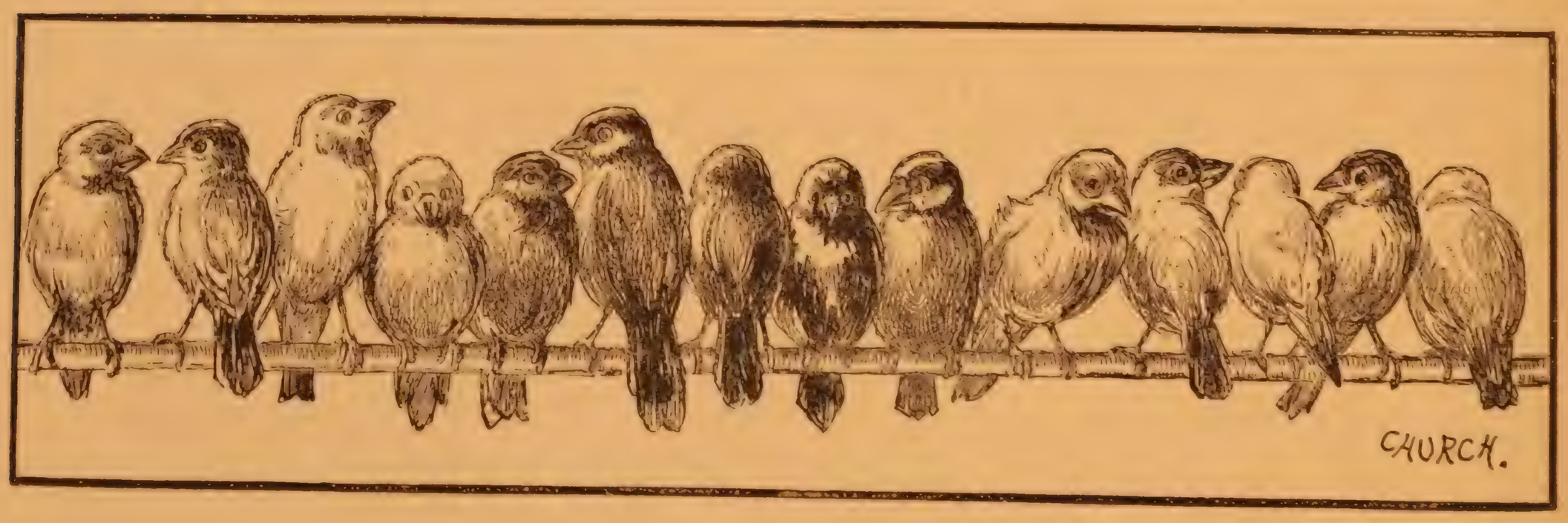
Now he alights on the ground, and stands like a bronze statue looking for some lurking foe. We now take our yelper, and give a few sharp yelps; he hears the call, and, spreading his tail like a fan, drops his gray flight feathers until they tip the earth, struts and gobbles. He is coming leisurely and cautiously toward us; now a hen yelps on the other side, and he pauses between the two calls, then struts and gobbles again. The hen is impatient for the caresses of her gallant, and runs to him; the others gather around, and with his harem he wanders off to his feeding-grounds, regardless of the seductive calls of the hen left behind. We hear him gobbling in the distance, and follow very cautiously, taking advantage of every thicket to screen our approach.

We call again, and hear in reply, instead of a gobble, a bungling attempt at a hen-call, made by some backwoodsman. The gobbler had detected the fraud and left. Fearing we might be mistaken for a turkey and shot at, as once happened to the writer, we approach the woodsman, and while talking with him hear the gobbler a long way off, and immediately set out after him, our well-trained pointer creeping at our heels. The morning has passed, and the turkeys have left the bottoms and sought the ridges, where the leaves have been burnt off by the farmers that the grass may grow early for pasturage. In the burnt woods it is difficult to approach very near, as all the undergrowth is destroyed; and this is the place he selects to spend his nooning, where he can pick the tender grass and gather bugs and grasshoppers with no fear of being surprised. The hens, one by one, have stolen off to their nests, and now he only gobbles at long intervals, but will continue strutting occasionally all day. Getting his location, we slip carefully around a ridge, and reaching a point without being seen, near enough to be heard by him, give a cluck and gulp like a hen that has just left her nest. Having caught the note of a hen in the morning, we imitate her voice. This is one of the perfections in the art of turkey-calling; no two leaves of the forest are alike, nor are any two voices of birds or men alike.

A very delicate ear, trained to catch the sounds of the woods, can detect the slightest peculiarity in the note of a turkey-hen; and as the gobbler catches the familiar sound, he gobbles, but remains standing erect as a statue of patience. He has been deceived by hunters before, but this call was so like one of his wives that, in spite of his suspicious nature, he almost resolves to go to her; but still he stands and listens. A less experienced hunter would call again; but we remain quiet a long time. Patience is the great secret in the art of turkey-hunting. He becomes impatient, and gobbles. Still no answer. Then a low, seductive call, as much as to say, very coquettishly, it is immaterial, Sir Knight, whether you come or not. He has located the call, and decides to go to it. A young gobbler has joined him who dares not strut in his presence, but precedes the old cock, who struts leisurely behind, using the young gobbler as a guard in front. They are still approaching very cautiously. In the meantime, the hunter is stretched on his back, with his head and shoulders resting against the foot of a giant oak, his gun on his knees, and his dog crouched low beside him. They are now close enough for a shot. A novice would have shot at the foremost; the skilled hunter aims at the head of the hindmost. For two reasons: first, he is the largest; second, it will leave the remaining turkey nearer for the second barrel. At the crack of the gun, the old bird falls flopping to earth in a death struggle, with a load of No. 6 shot in his head. The other runs off as fast as his legs can carry him. He has not even time to rise and fly, before the other barrel, loaded with B.Bs, cuts him down.

Let us go again in the afternoon, and see if we can find a gobbler on his feeding-grounds. We try our callers, but hear no answer. We then call fast and loud, like a hen that had returned from her nest among the hills and, finding no company in the bottom, feels lonesome. A long silence follows; we are tempted to call again, but experience has taught us that too much calling at this hour will excite suspicion. Presently we hear the puff and drum of the strut, and we know he has heard our call, and is looking for us. Now he passes within short range. Do not move; before you could raise your gun he would dart behind a tree and be off like a shot. He is passing a tree; now, while he is behind it, place you gun in position. He steps out, you fire at his head, and the white turban sinks to

earth. The sun is now low on the horizon; let us go down by the cypress breaks; perhaps we can roost one. Again we are quietly seated, and in a little while hear the flopping of wings; they are flying up to roost. We might now slip under the roost and shoot; but this is unsportsmanlike; so we will quietly retire, and return in the morning and try our skill in calling a gobbler down. There are many ways of hunting turkeys. I have sometimes used a tame gobbler as a decoy. The wild gobblers, when they hear the strut and gobble of a strange turkey, will come forward to give battle to the intruder. Then they are hunted with dogs. A gobbler can be run down and caught with hounds; he is a heavy bird, and after two or three flights cannot rise to fly again. After the spring season is past, the gobblers cease gobbling and wander about alone, or in small flocks, until after the young broods are large enough to take care of themselves; then they gather together in large flocks as the fall comes on. At this season, they are hunted with dogs. A well-trained pointer who runs silently on the track and dashes in and scatters the flock with a quick bark is the best for this service. After the flock is scattered, the hunter conceals himself, and in a little while they will begin to call together. If it is in the early fall, they make a note like *pee, pee, pee.* As they grow older, the call is coarser. They are easily called up and killed at this season. Even a novice may deceive a young turkey that has never been hunted. The instruments used for turkey-calls are various; the wing-bone of a turkey is the most primitive instrument, or the vibration of a leaf placed against the lips. I use a hollow tube or a block with a piece of wire scraped against a whet-stone.



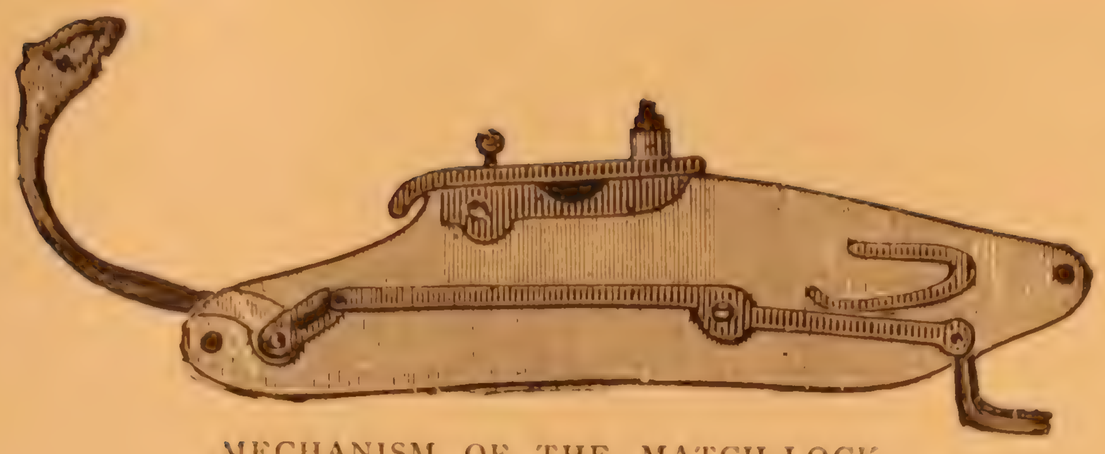
THE SHOT-GUN.

By ALFRED M. MAYER.

WHEN the great amount of energy pent up in gunpowder had become generally known in Europe, during the fourteenth century, men began to exercise their minds in the invention of cannon and hand-arms that could withstand and direct this tremendous force. It is quite interesting to find that the cannons of the fourteenth century were breech-loaders. In the sixteenth century both breech-loaders and muzzle-loaders were in general use.

Hand fire-arms were also used in the fourteenth century. They were called bombardes. The bombarde was simply a barrel fixed to a stock, and fired from the shoulder. Later, this arm was supplanted by the hand-culverin, a rather heavy arm weighing from ten to fifty pounds. Its bore was about three-fourths of an inch. It was fired from a forked rest. Two men were required to use the piece; one to hold and aim it, the other to apply the fire to the touch-hole and to help to carry and load it. During the fifteenth century these arms appear to have been extensively used, for at the battle of Morat, 1476, the Swiss were armed with 6000 culverins.

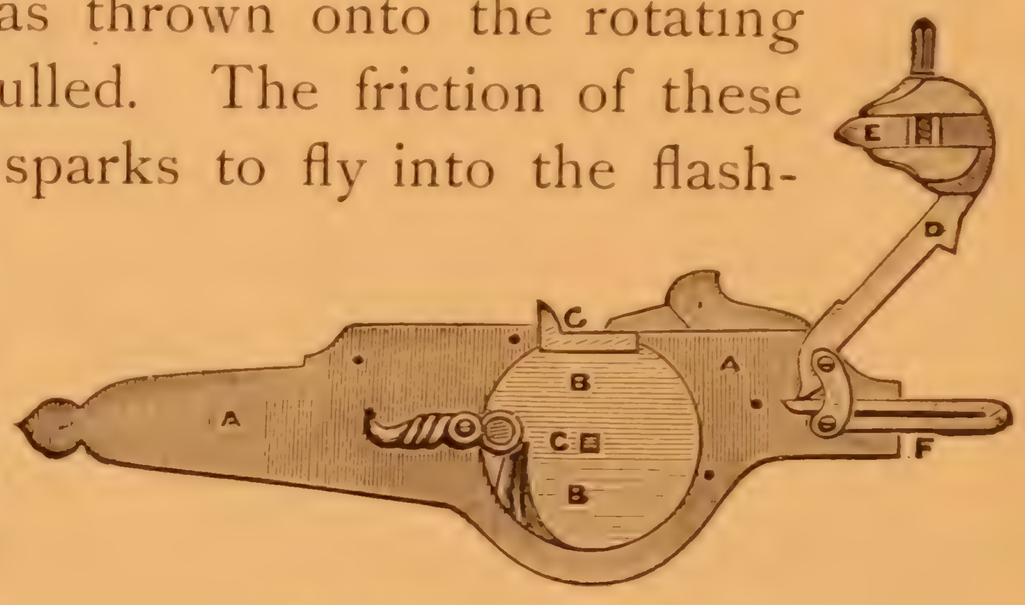
The gun retained the form of the culverin till the early part of the sixteenth century, when the Spaniards invented the arquebus. This gun had a longer barrel and smaller bore than the culverin. In the forepart of the stock was hinged the "serpentine," which carried a slow-match. The latter was lighted at a match burning on the top of the barrel, and then, on depressing the neck of the serpentine by pulling (what was the counterpart of) the trigger, the powder was set fire to in the side flash-pan. Later, the serpentine was divided into two parts, the lower part forming a trigger, the upper a



MECHANISM OF THE MATCH-LOCK.

hammer which was sent forward by a spring on pulling the trigger. This, the match-lock, is the first and the simplest of gun locks.

In 1515, a notable improvement in fire-arms was made at Nuremburg in the invention of the wheel-lock, by which fire was obtained by the friction of flint against pyrites, a method of procuring fire which Europeans had used since prehistoric times. A steel wheel, B, with a grooved and roughened edge, was set in rapid rotation by the action of a spring coiled in its interior. This wheel was wound up by a key turning the axis C. The piece of pyrites, E, carried in the hammer, D, was thrown onto the rotating wheel when the trigger was pulled. The friction of these substances caused a stream of sparks to fly into the flash-pan. The wheel-lock greatly increased the rapidity of fire, especially at game which unexpectedly came in sight; it also allowed the marksman to use freely both hands in aiming and firing his piece.

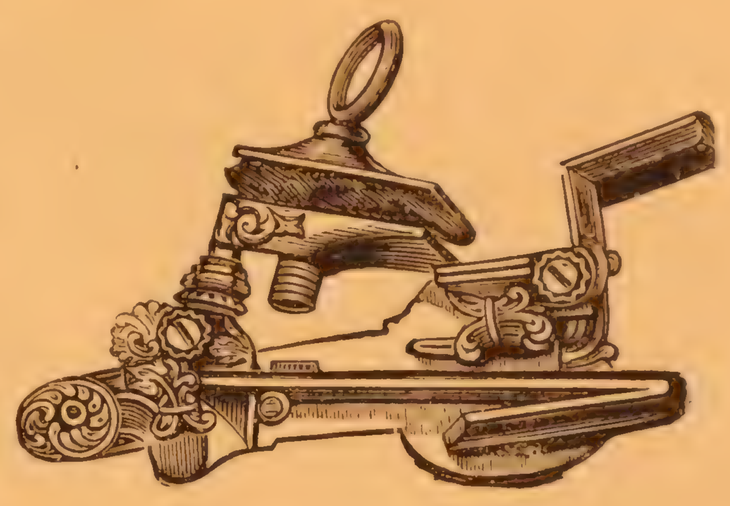


THE GERMAN WHEEL-LOCK.

With the improvement of the wheel-lock, the gun began to supplant the long-bow and cross-bow among European sportsmen. The invention of "hail-shot," about 1550, added to the popularity of the gun (which now first became a shot-gun) by giving greater success to the sportsman when shooting at moving game. But the long-bow and the arbalest by no means disappeared from the hands of sportsmen or from the armies of Europe. The bow had its peculiar advantage over the shot-gun as a hunting arm in being noiseless, and its inexpensiveness placed it within the reach of all who were privileged to carry arms. Besides, in those days, the art of shooting on the wing was unknown; and at still game, the arrow launched from the long-bow of a skillful archer was probably as effective as the wheel-lock gun. The killing range of the arrows of the long-bow, their accuracy of flight, and the rapidity with which they could be discharged, gave the long-bow the glory of holding

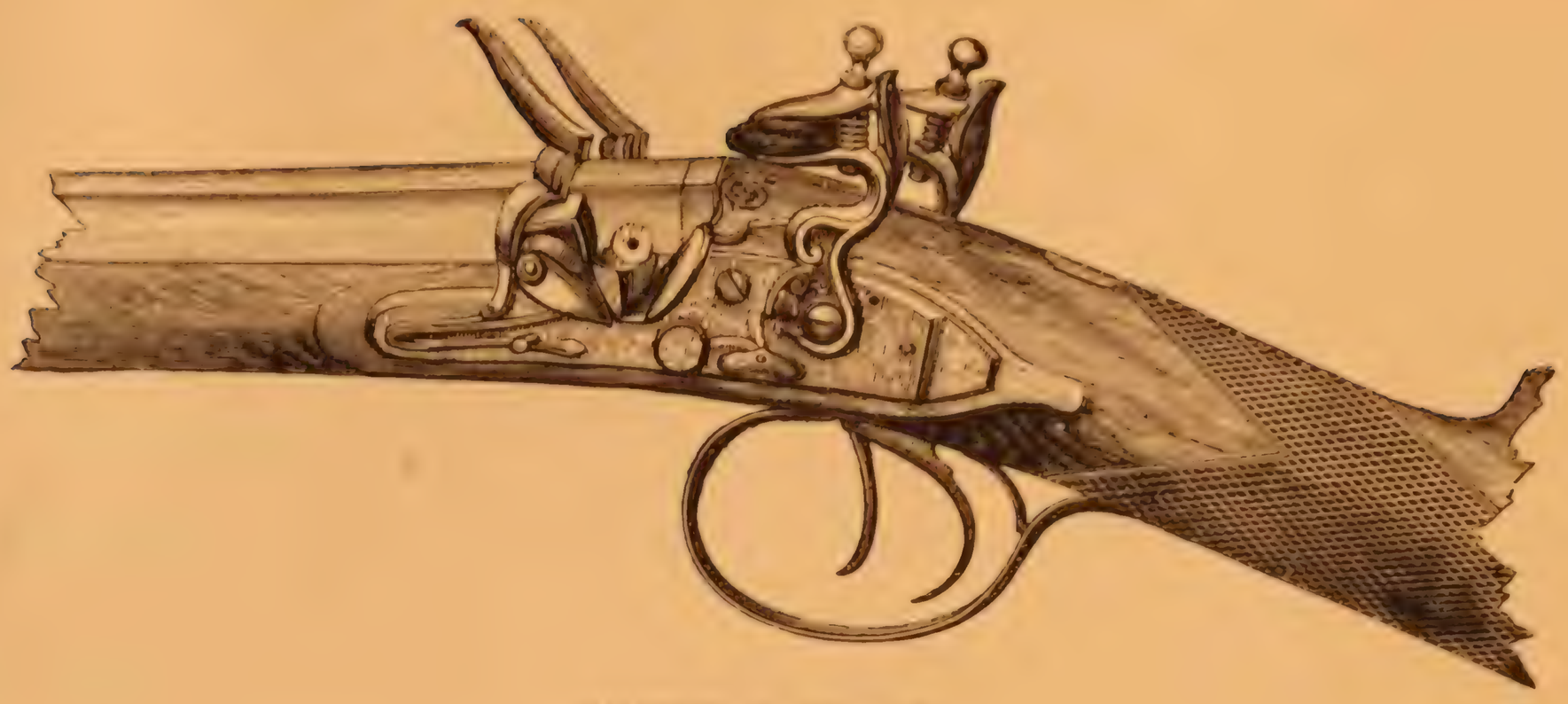
its own against fire-arms long after their introduction into armies of Europe. It is stated that an English archer could pierce any armor at two hundred yards distant, except that made of Milan or the best Spanish plate; and the ancient accounts of men in armor having been shot through is confirmed by breast and back plates, in European museums, perforated with arrow-holes. Indeed, so well did the English appreciate the peculiar excellence of the long-bow as a military arm, that it retained a place in their army even as late as 1627.

The wheel-lock hunting arm received improvements in workmanship and in matters of detail, but remained essentially the same for a century, when, in 1630, the flint-lock was invented in Spain. To Spanish artisans are also due great advances in the manufacture of gun-barrels, in which art they continued to improve so much that those of their best artisan, Nicholas Biz, of Madrid, sold as high as two hundred dollars.



SPANISH FLINT-LOCK.

The flint-lock fowling-piece held its own during two centuries, during which period it was gradually improved in all its parts,—in the texture and chambering of the barrels, in the locks, and in the general proportions of the gun,—till it reached the zenith of its excellence, about 1815, "when," says Mr. W. W. Greener ("The Gun and its Development"), "the renowned Joseph Manton—the king of gun-makers—had so improved and added to its mechanism as to make a first-rate sporting gun veritably an engine; for it is from that word that the term 'gun' is derived. The various improvements to effect self-priming and to render the flash-pan water-tight greatly added to the mechanical parts, and a pair of the best pattern flint-locks, well made and finished, were well worth the seven pounds paid for their manufacture. Manton's latest improvement in flint-locks was the gravitating stop, which rendered it impossible for the cock to fall upon the hammer whilst loading the gun. The use of them was, however, superseded by detonating guns, to which Manton also devoted a portion of his time. This wonderful maker appears to have led the fashion in everything relating to fire-arms; and his pattern locks, stocks, and furniture were minutely copied by



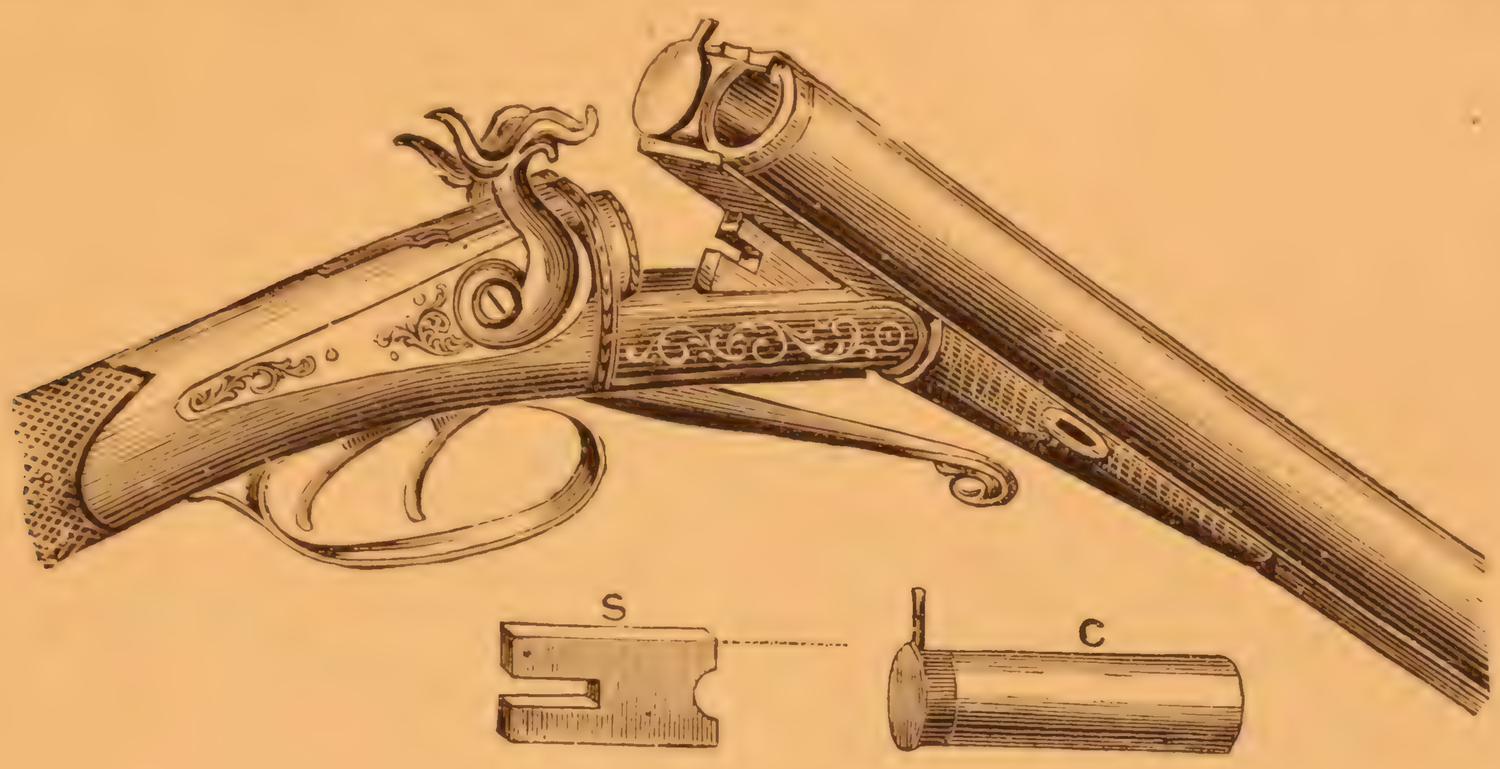
MANTON FLINT-LOCK.

gun-makers of less note. We give an illustration of the Manton fowling-piece, showing his well-known pattern hammers and cocks, the water-tight flash-pan, and his gravitating stops. Joseph Manton, although he received the extraordinarily high price of seventy guineas for his best guns, failed several times, and died poor. This is accounted for partly by the losses he sustained in lawsuits respecting his patents. He was buried in Kensington Cemetery, and a monument bearing his epitaph, composed by Colonel Hawker, gives the date of his death—29th June, 1835, aged sixty-nine—and eulogizes his work as a practical gun-maker and inventor."

Between 1807 and 1825, several inventors endeavored to replace the uncertain and slow fire of the flint-lock by the surer and quicker ignition given by the explosion of a fulminate. Several devices, such as "detonating tubes" placed in the touch-hole and armed with fulminate, fulminate placed in the bottom of the cartridge and exploded by the perforation of a needle, and fulminate inclosed between paper or metallic foil, were tried, till the well-known nipple and copper cap was devised about 1818, an invention which is claimed by Colonel Hawker, who showed this plan first to Joseph Manton.

In 1836, Lefaucheux, of Paris, invented his pin-fire cartridge and his breech-loader. I place the cartridge first, for breech-loaders, too numerous and varied to mention, had been invented before; but the modern breech-loader owes its hearty approval of sportsmen to the admirable invention of the Lefaucheux cartridge, with its stout, unyielding flanged base, without which, or its equivalent in the Pottet central-pin cartridge of 1856, the breech-loader would never have had the extensive use it now deservedly enjoys.

The Lefaucheux gun is shown below. In the left-hand barrel is a cartridge, the pin of which fits in a recess cut in the top of the breech. This pin is struck by the hammer and driven into the fulminate held in the bottom of a little brass cup in the center of the base of the cartridge. When the gun is closed, the barrels fit close to the "standing-breech." When the lever, shown under the "breech-action," is turned till it comes in line with the axis of the gun,

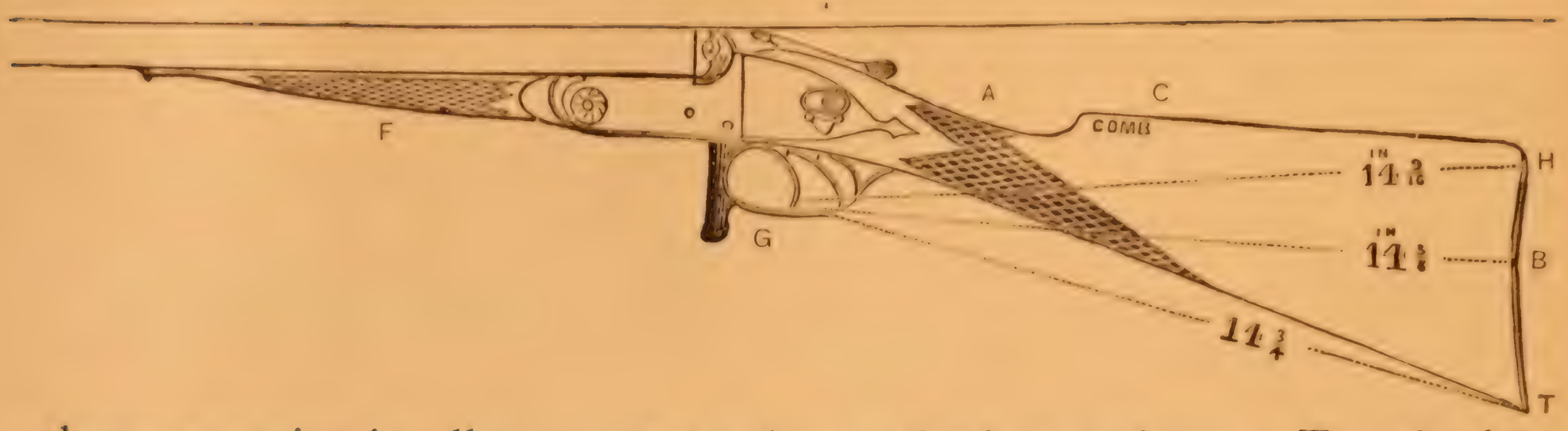


LEFAUCHEUX'S BREECH-LOADER.

it throws a bolt into the "lump" attached to the underside of the barrels, and thus locks the breech-end of the barrels to the breech-action. The lump and the slot into which the bolt fit are shown separately at S.

The down-drop action of the barrels on opening the gun, and the mode of securing them to the breech-action by a bolt working in a lump fixed to the underside of the barrels, seen in Lefaucheux's first breech-loader, has been universally adopted by gunmakers since his gun appeared in 1836. It has been greatly improved in the details of mechanism, but the general plan remains the same. The weakness in the locking of his barrels to the breech-action was soon found out, and has been remedied by numerous plans in which double and even triple bolts, further removed than his from the hinge-joint, have been used.

The mechanisms invented for opening and for locking breech-loaders are so numerous, and the majority of them accomplished the object so perfectly, that one cannot fail to get a trustworthy gun if ordered of any maker of established reputation. In selecting as types two breech-loaders, one with hammers, the other hammerless, to illustrate our remarks on the gun, we wish it distinctly understood that thereby we do not intend to convey the impression that we judge

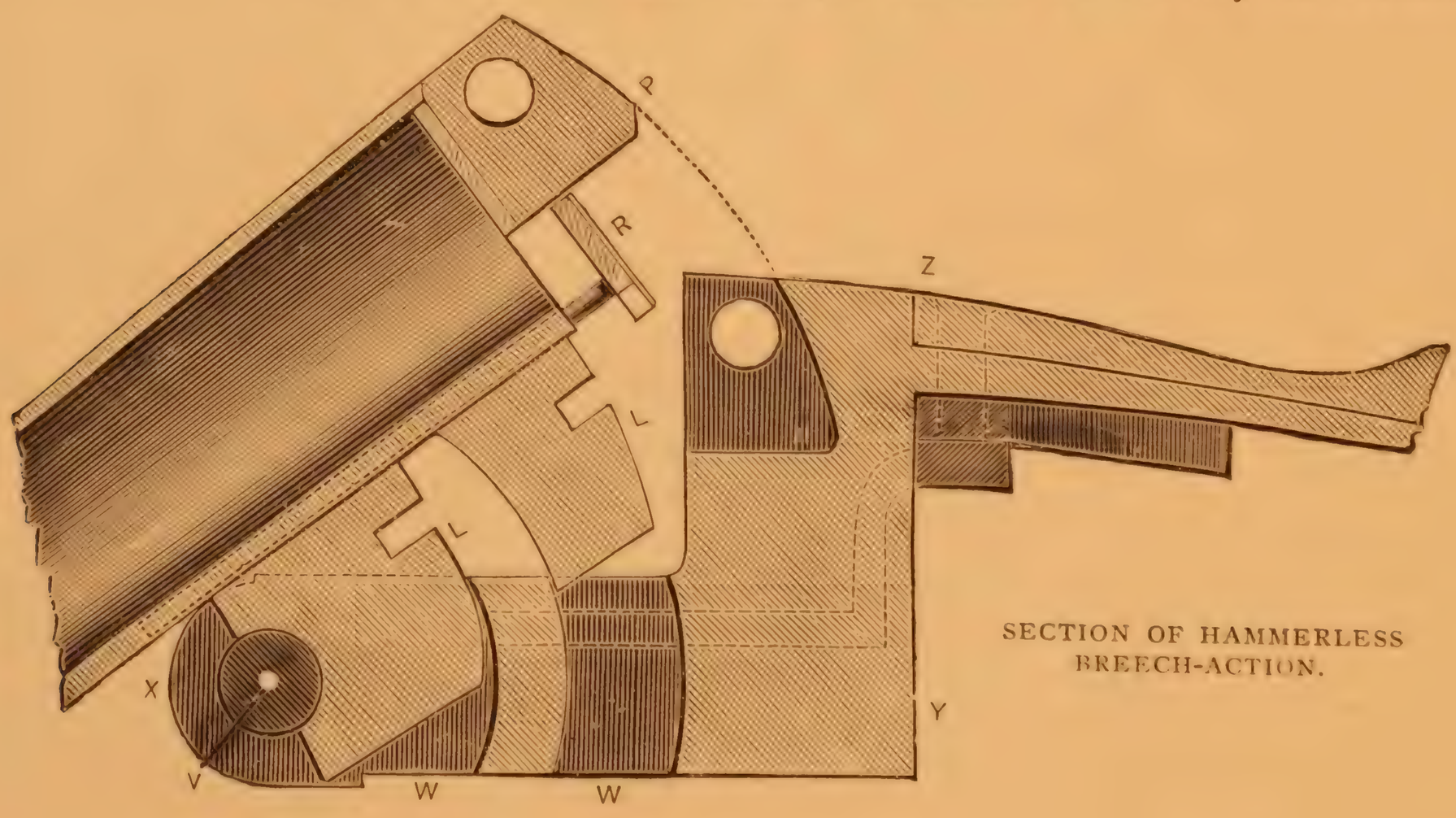


these superior in all respects to those of other makers. Two had to be selected out of the numerous types now offered to sportsmen, and in doing so, we have selected two with which we have had much experience and which are undoubtedly excellent.

Before proceeding to describe the modern breech-loading shot-gun, it is essential that the general reader be conversant with the names of the various parts of the gun, including the separate pieces composing the lock.

The names of the parts of the stock are, A, the hand; B, the butt; H, the heel; T, the toe of the butt; C, the comb; F, the fore-end; and G, the trigger-guard.

The barrels are attached to the breech-action, the name given to the whole piece of iron X, Y, Z. This is screwed firmly to the stock. The perpendicular part of this ⌙ shaped piece is called the break-off, because in muzzle-loaders the barrels could be separated from the rest of the gun at that place. The face of the break-off, against which the breech-end of the barrels tightly fits, is called the standing-breech, or false-breech. The barrels rotate on the breech-action around the hinge-joint, V. The lumps L and L, firmly dovetailed



SECTION OF HAMMERLESS BREECH-ACTION.

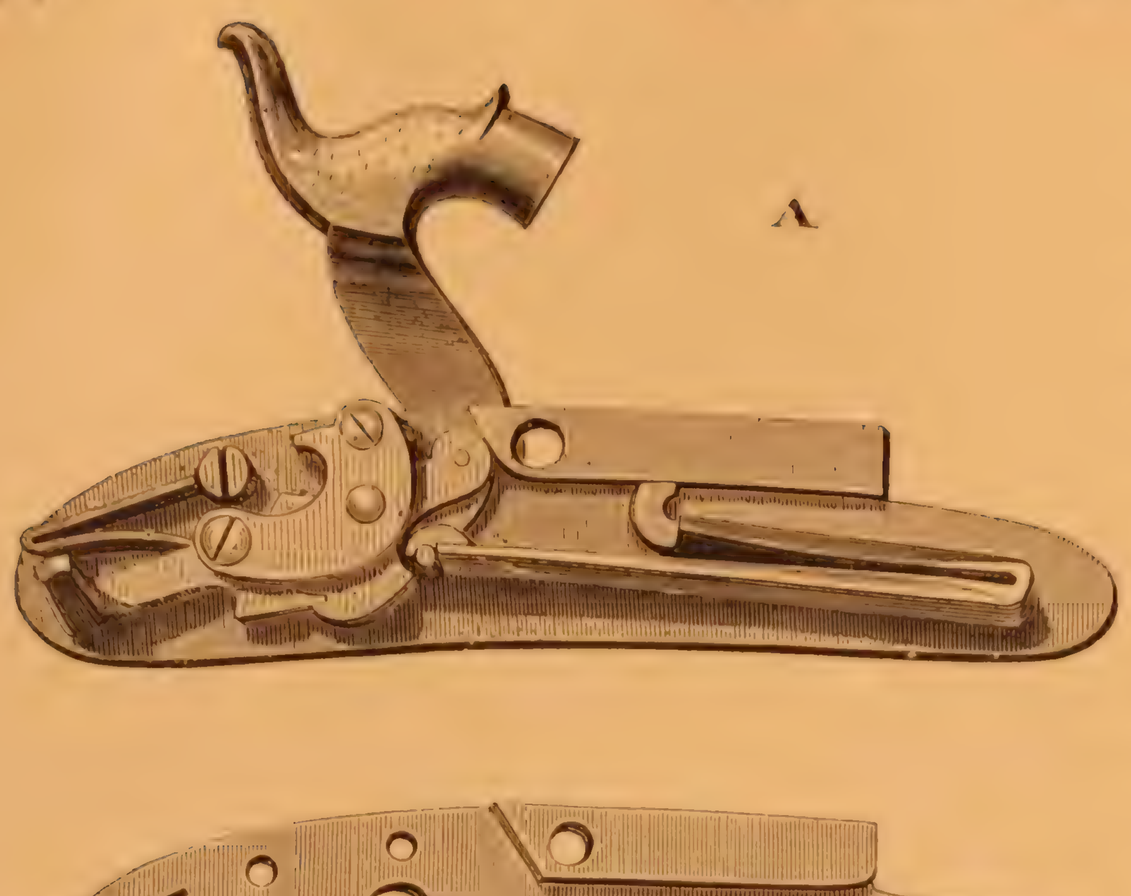
between the barrels, have their surfaces wrought to portions of cylinders whose common center is the center of the hinge-joint. These cylindrical surfaces fit closely in the corresponding slots W, W cut in the breech-action. The cartridge-extractor is shown at R. It is worked by a cam attached to the fore-end. When the gun is opened, or "broken," this cam presses forward the rod of the extractor, and pushes out the cartridges sufficiently to allow the fingers to remove them. P is the extension-rib which fits in a recess cut in the break-off. When the gun is closed, bolts enter the slots S,S[1] and the hole in the extension-rib, and firmly and securely lock the barrels to the breech-action. To unlock and open the gun, the top-lever, L, is pressed from left to right; this draws the bolts and the gun opens.



PATENT TREBLE WEDGE-FAST GUN.

This engraving shows the appearance of one of Mr. W. W. Greener's guns when opened. The breech-action and locking gear just described are those of one of these guns.

The parts of an ordinary bar-lock are shown on page 772. Warren's "Shooting, Boating, and Fishing" (Scribner and Sons, 1871). The longer leg of the mainspring, 8, has a hook or claw at its end which rests on the pin of the swivel, shown linked to the right of the tumbler, 2. The action of this swivel is to increase instead of diminishing the force of the spring as it unbends on the descent of the hammer, 3. The interposition of the swivel between the tumbler and mainspring causes the latter to act with increasing leverage on the tumbler as the spring unbends. This increasing leverage will be apparent to any one who will compare the pressure of the thumb on the hammer when it is just lifted with what it is just before the hammer catches at full cock. In the tumbler are cut two notches,

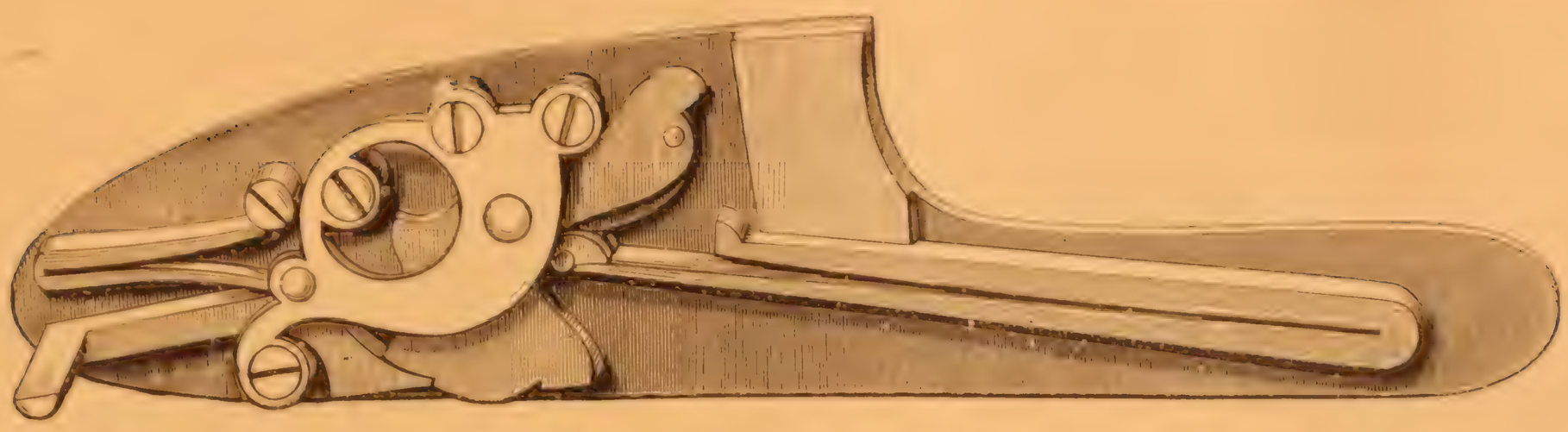



1

8

called bents. One of these, into which the sear, 5, falls when the hammer is at half-cock, is so deep and of such form that a pull on the trigger cannot force the sear out of it. The other is shallower, and so shaped that a pull on the trigger—generally of about four pounds—will disengage the sear and cause the hammer to strike on the striking or firing pins. The tumbler and sear work between the lock-plate, 1, and the bridle, 4, which is screwed to the lock-plate. The sear-spring, 6, constantly presses the end of the sear against the tumbler. The tumbler has a journal which goes through the lock-plate, and to a square shoulder on this journal is secured the hammer by a screw, 7.

An improvement was made in the above lock in 1869 by Mr. Stanton, of Wolverhampton, England. His lock is known as the rebounding lock, the peculiarity of which is that after the hammer has struck the striking-pin it flies back to half-cock. This is accomplished by having the upper leg of the mainspring free, and extending it so that it reaches under a projection on the tumbler. This projection falls on the upper leg of the mainspring just before the hammer strikes the firing-pin, and the projection of the tumbler thus forces the upper leg of the spring downward so far that the hammer reaches and strikes the firing-pin; but the next instant this portion of the spring throws up the projection on the tumbler, and thus brings the hammer to about one-eighth of an inch above the cap or firing-pin.



STANTON'S REBOUNDING LOCK, COCKED—FULL SIZE.

In this position of the hammer the sear is just clear of the half-cock bent, so that if the hammer is pressed forward the sear closes in this bent and prevents its further motion toward the cap. No sportsman should think of buying a gun not furnished with these rebounding locks, which have so much diminished the risk of accidents. The peculiar points in the construction of this lock which we have described will be understood with the aid of the above engraving from "The Modern Sportsman's Gun and Rifle," by S. H. Walsh.

If the sportsman understands the construction of the locks of his gun, he can readily take them apart, clean and oil them, and put them together. He is sometimes required to do this after his gun has been exposed to the wet; especially after he has been shooting on the shores of bay and estuaries, where he is often exposed for hours to the spray of salt water.

To Take Apart a Lock.—(1) Take off the locks by unscrewing the side-pin which holds them together and binds them to the breech-action and stock. (2) Pull the hammer to full-cock, then clamp tightly the legs of the mainspring in a spring-cramp. (3) Relieve the sear from the bent and push the hammer forward; the mainspring will now come off in the jaws of the cramp. (4) Unscrew the bridle-pins and take off the bridle. (5) Take off the sear and then the sear-spring. (6) Take out the screw which holds the hammer on the tumbler, and, putting a brass punch on the arm or journal of the tumbler, knock the latter free of the hammer.

To Put the Parts of a Lock Together.—(1) Put on sear-spring. (2) Put on the tumbler. (3) Cramp the sear-spring, and then put on the sear so that it goes into the half-cock bent on the tumbler. (4) Screw bridle to lock-plate. (5) Take the mainspring in the cramp and hook it on to the swivel, and force the stud on mainspring into its hole in the lock-plate; then press mainspring down quite close to

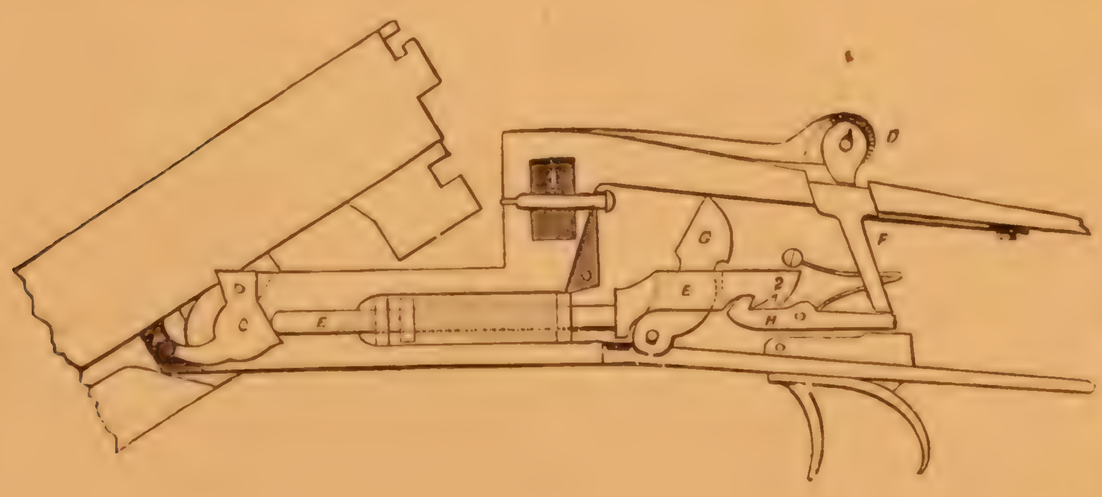


HAMMERLESS GUN.

lock-plate. Now, on removing the spring-cramp, the lock is ready to have the hammer placed on the tumbler. (6) To do this, place the lock on a wooden block, and drive the hammer on to the square shoulder of the journal of the tumbler; then put in the screw that binds the hammer firmly to the tumbler.

We have given a description of a breech-loader with hammers in referring to Mr. W. W. Greener's table-bolt and extension-rib gun. As type of hammerless guns, we select this of Mr. Sneider, of Baltimore.

The accompanying figures and appended descriptions will show clearly the peculiarities of this gun. The safety action is excellent. By the forward rotation of the milled wheel in the end of the top lever, a bolt is put on the sears and holds them so effectually that no pull on the trigger or jar to the gun can set them free of the catches in the hammer-carrier, and there is no necessity of setting free the sears till the instant of firing. The gun is held "ready" with the index-finger under the guard and the ball of the thumb on the safety-wheel. At the moment the bird rises the gun is thrown against the shoulder, and with this motion the thumb can naturally rotate the safety-wheel backward and take off the lock on the sears. This movement is soon acquired by the sportsman, and when it becomes automatic to him it adds greatly to his assurance of safety from accidents.



This represents the breech and part of the fore-end of the Sneider hammerless gun; also the lock with lock-plate

removed. The operations of the various parts are as follows: When the gun is opened to load, the pushing lever, Q, is forced by the cam-shaped surface, P, in fore-end, against the hammer-carrier, E, pushing it backward against the hammer, G, and bringing it to full-cock, where it is held by the interlocking of the hooks on the hammer-carrier, E, and sear, H. By pulling the trigger, the sear is pressed upward, thereby releasing the hammer-carrier, E, which is driven forward by the main-spring, taking with it the hammer, G, and exploding the cartridge.

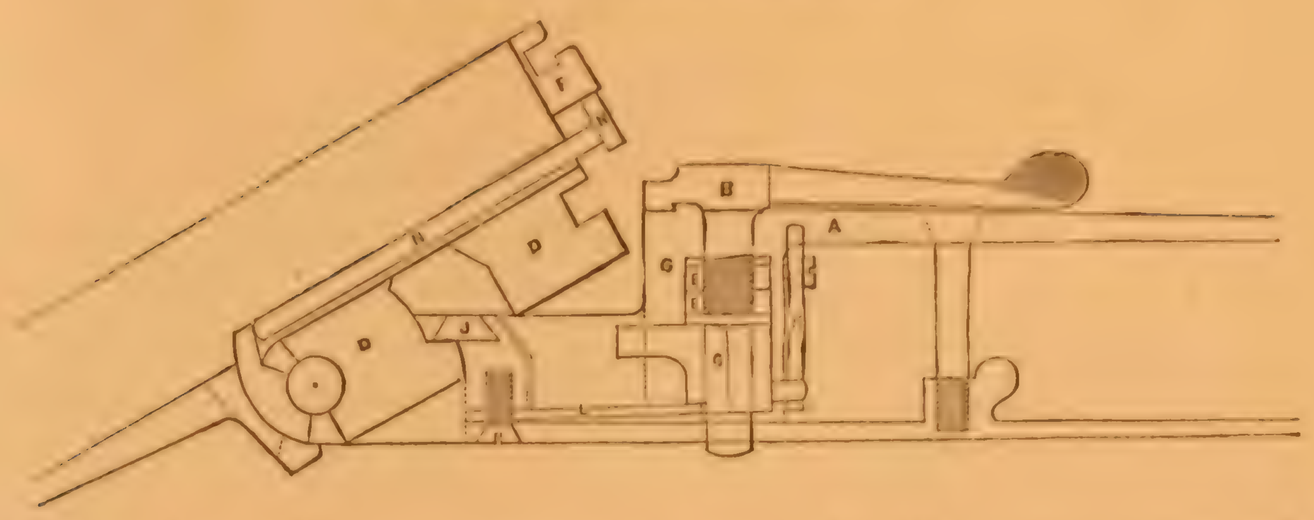
To set the gun at safety, press forward the button, D, on the end of lever, which, pushing the bolt, F, against arm of the sear, causes a rigid interlocking of the two hooks. This is a positive locking, and prevents all danger of the gun jarring off, which is possible if the safety-bolt only presses against the triggers. On the hammer-carrier, E, is a nut, I, for regulating the tension of the mainspring, K. To let the hammers down from full-cock, open the gun and hold back both triggers while closing.

The slot in hammer-carrier, E, is shaped in such a way that when the hammer is forced down upon the strikers to explode the charge there is room left behind the shoulder of the hammer to allow it to go back again from the striker, relieving the same instantly from contact with the cartridge, thus making a rebounding hammer at once simple and effective. Although, from the secure and positive locking of the hammer-carrier, E, and the sear, H, there is no danger of jarring off, even when the safety-bolt is not in place, yet the lock is provided with an extra catch, 2, which will assist the fall of the hammer before striking the firing-pin, if by any means the jarring off of the hammer should occur.

At 1, in the figure, is seen a gas-chamber which communicates with the holes of the firing-pins. If any gas should blow back it will go into this gas-chamber, and thence escape by vent-holes in the standing-breech, and not go into the locks. This action of the gases on the locks has been one of the objections to hammerless guns.

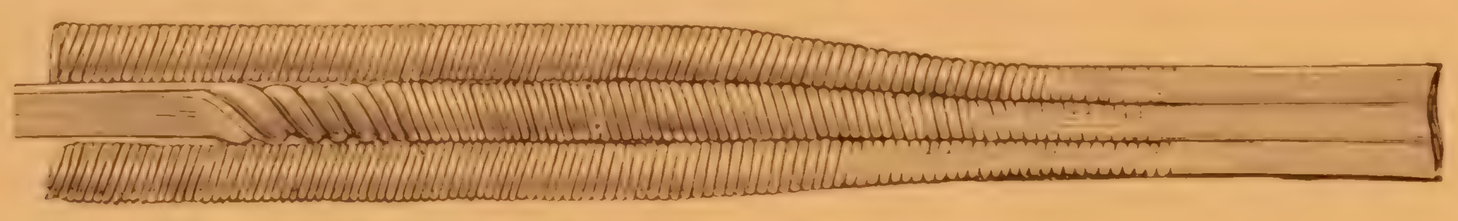
The cut on page 776 shows Sneider's double-grip top-lever gun, with all its parts, cut in half, and the gun ready for insertion of cartridge.

The top-grip, B, inserted from above, is held from below by nut, E; the lower grip, C, inserted from below, rests against the solid breech, the square hole in C receiving the square shank of B, so that when B is turned, C must turn also. The interlocking of the upper-

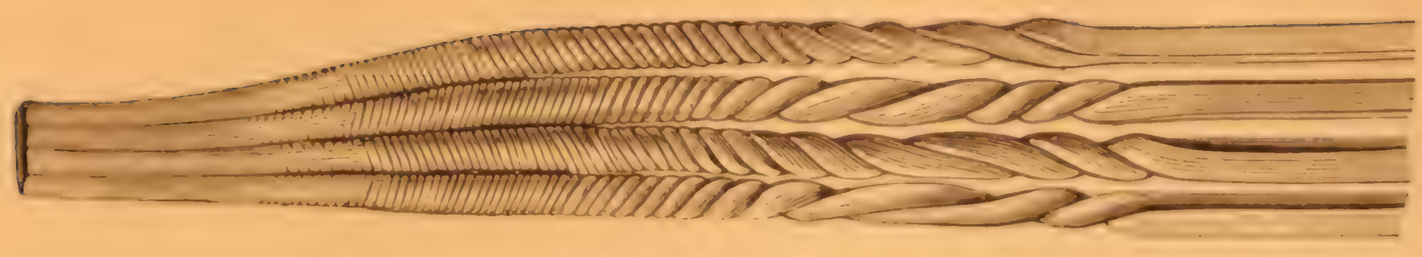


grip, B, with the lug, F, prevents any and all springing of the barrels and breech at this point. Any wear on B can be taken up by tightening nut, E, without altering the position of C; and any wear on C, by screwing downward the second nut, E, on shank of B, without altering position of B. To prevent the nut, E, from getting loose, a steel washer with a tongue fits between it and the face of the breech. Thus, with the two pieces B and C and the nuts E E is formed a perfect double-grip action, allowing compensation for wear, requiring nothing further, if strength alone is considered. To keep the grips and the lug, F, and hook, D, from wearing by continual contact, stop L enters into a notch on the underside of grip, C, when the gun is opened, holding the grip out of the way until the barrels are brought home, when L is depressed by lower lug, D, and the grips allowed to swing into their locking position. The gun is made self-closing by the spring, K, bearing against a stud on C, bringing the grips home when released from the hold of L. The strain on the hinge when the barrels drop is entirely obviated by the shoulder-lug, D, coming in contact with check, J. This check works exactly like the bolt which holds the front stock to the barrels. Wear on hinge is taken up by compensating hinge-bolt.

Mr. Sneider claims for this action: That with four pieces, B, E, E, C, a perfect double-grip gun is formed; that, without affecting the strength of the action, it is made self-closing, by spring, K, and the movement, and consequently the wear upon the parts lessened exactly one-half by the introduction of stop, L; that the strain on the hinge-bolt is entirely overcome by check, J; and that means of compensation is supplied at every point where wear can occur in a breech-loader—on B by nut E, on C by nut, and on hinge-bolt by



THREE-TWIST BARREL.

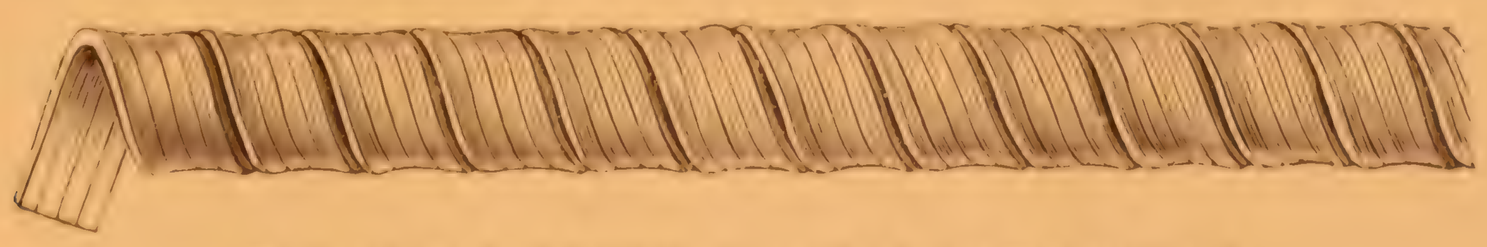


FOUR-TWIST BARREL.

compensating bolt, and that this compensation can be made at any one of these points without affecting the position of the other pieces.

GUN-BARRELS.—It is needless, in a work of the general character of this one, to go into a lengthy description of the details of the processes employed in making gun-barrels; but a general account of the operations in their manufacture may be of interest to the sportsman, in serving to give clearer ideas on the differences in the texture of the twist, Damascus, and laminated steel barrels which are now used. The twist barrel is often called stub-twist, from the stubs of horse-shoe nails out of which these barrels were first made. These stubs and other "scraps" are welded together, drawn into bars, then heated, and while one end is in a notch, or clamp, the other end of the rod is attached to the axis of a crank and twisted. At present, these rods are made of selected iron, the supply and quality of stubs having fallen off. These twisted rods are now beaten into flat bars and then wrapped around a mandrel, and their edges are welded together. This forms the twist barrel.

The Damascus barrel is formed by taking nearly equal proportions of refined iron and steel bars. These are placed in piles, or "fagoted," and then heated and thoroughly welded together. The bar thus formed is cut into equal lengths, again "fagoted," welded under a trip-hammer, drawn into narrow rods, and these are then twisted. To make the best Damascus barrel, three of these twisted rods are placed alongside of each other, and forged into a ribbon of the dimensions of cross-section of one-half inch by seven-sixteenths for the breech-end of the barrel, and one-half by three-sixteenths of an inch for the muzzle-end. This ribbon is now wrapped around a mandrel, and its convolutions are firmly welded together at a white heat by hammering the ribbon on the mandrel while placed in a semi-cylindrical groove. Another portion is added to that just



TWO SPIRALS WELDED TOGETHER IN THE MIDDLE.

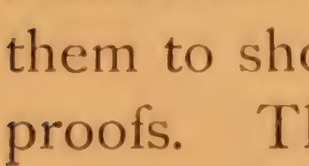
formed by "jumping" and hammering till the length of the barrel is completed.

Laminated steel barrels are formed of ribbons composed of six parts of steel to four of iron, and the only difference between laminated steel and Damascus barrels is that the ribbons composing the former are made of rods less twisted; but the ribbons are subjected to more hammering when on the mandrel, in order to get greater condensation and firm welding of the fibers of the two metals.

THE PROVING OF GUN-BARRELS.—The law in England requires gun-barrels, whether of domestic or foreign make, to be subjected to proof before they can be offered for sale when part of a gun. The barrels are subjected to two proofs. The first is called *provisional*, the second *definitive* proof. There are two companies in England authorized by law to prove gun-barrels. The one at London is called the London Gunmakers Company; the other, at Birmingham, is the Birmingham Guardians. The tests are precisely the same at both places. Barrels to be subjected to provisional proof are bored and ground, and plugs are screwed into their breeches. In these plugs the touch-hole is drilled. In the following table are given the charges used in provisional and definitive proofs of the gauges of guns given in the first column. I have added a column of usual loads for these guns with which to compare the charges used in the proof-house:

Gauge of gun.	*Diam. of bore.*	*Wt. of bullet or of shot in proofs.*	*Wt. of powder in provisional proof.*	*Wt. of powder in definitive proof.*	*Field-charge.*
4	1.052 inch.	1649 grs.	928 grs. = 2 oz. 2 drs.	580 grs. = 15¼ drs.	12 to 15 drs. 2½ oz. shot.*
8	.835 "	812 "	481 " = 1 " 1½ "	301 " = 11 "	7 " 1¾ " "
10	.775 "	641 "	372 " = 13½ "	232 " = 8½ "	4 " 1¼ " "
12	.729 "	535 "	350 " = 12¾ "	219 " = 8 "	3½ " 1⅛ " "
16	.662 "	399 "	295 " = 10¾ "	185 " = 6¾ "	2½ " 1 " "

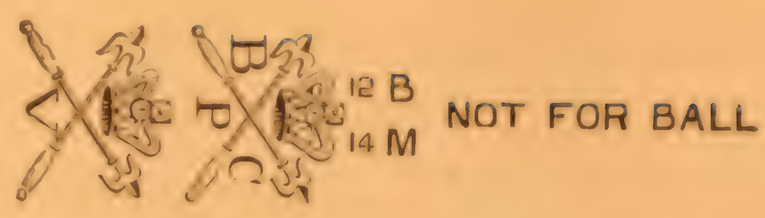
Over the charge of powder used in either proof is rammed a cork wad. Over this is placed the bullet, which is also covered with a cork wad. In testing choke-bored barrels, the bullet is replaced by the same weight of shot of No. 6, English. In the definitive proof, the barrels have to be presented to the company in a finished state and attached to their breech-loading actions. It is prohibited by law to reduce the weight of these barrels, after the company has stamped them to show that they have received the provisional and definitive proofs. The stamps used by the London Gunmakers Company on



choke-bore barrels is as follows: 12 B x 14 M stand respectively for twelve gauge at breech, fourteen gauge at muzzle.

* Single-barrel ducking-gun of 20 pounds weight.

This stamp is that used by the Guardians of the Birmingham Proof-house:



An examination of the table shows that the charge of powder used in provisional proof is about 3⅓ times the average field charge, and in definitive proof it is about 2⅓ times the field charge. The ball, or charge of shot, has very little more weight than the average charge used by the sportsman.

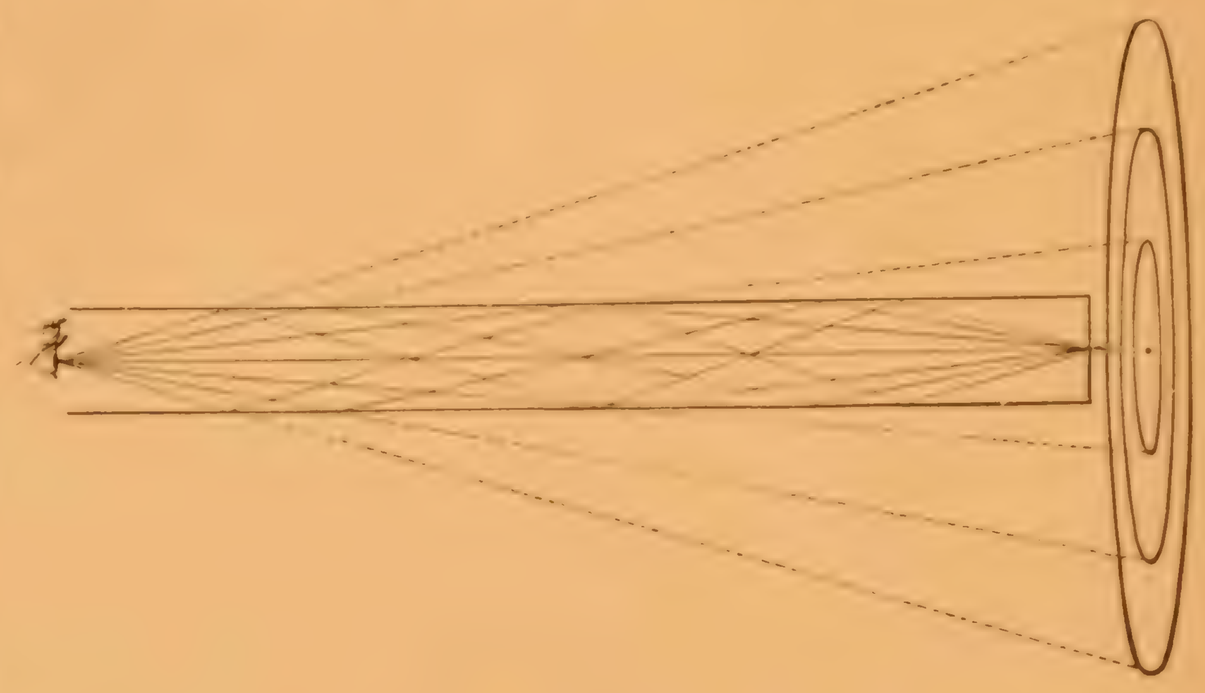
Belgium is the only country, besides England, whose laws require the proving of gun-barrels. At the Liege proof-house, each breech-loader is proved thrice. First, the barrels are tested, then the barrels and breech-action, and finally the finished gun. The proof charges for a twelve-gauge gun are a bullet, or a charge of shot weighing 34 grammes. Twenty-two grammes of powder are used in the first proof, 15 grammes in the second, and 7 grammes in the third proof.

The following are the Belgium proof-marks: 

To Test the Straightness of the Bore of a Gun-barrel.—The barrels of high-priced guns are not always straight. They may have been so before they were soldered together and ribbed, but these operations often draw and bend the barrels. The straightness of a barrel can be readily tested by any purchaser in the following manner: Take a thin card-board wad of the gauge of the gun, and with a pair of dividers get its center. Perforate this center with a pinhole. Place the muzzle of the gun on the floor, and push the wad from the breech till it reaches the floor at the muzzle-end of the gun. Now point the barrel toward the bright sky or at the porcelain shade of a lamp. Place the breech of the barrel quite close to the eye and look at the brightly illuminated pinhole. You will see this hole in the axis of the barrel. Around it, as a center, you will observe three or four bright rings. If the barrel be straight these rings will be perfectly concentric, with the pinhole for their common center. If the barrel be bent, say to the left, then the circles will appear as, if slid to the left of the central pinhole; the direction in which the circles appear displaced corresponds to the direction in which the barrel is bent.

The above is a severe test, and there are few barrels that will stand it. A similar test, though less searching, may be applied by merely placing the breech very close to the eye and looking through

the barrel directed to the bright sky, when you will observe the opening of the muzzle and, surrounding it, three or four bright, broad rings, which will all be concentric with the bright circle of the muzzle if the barrel be straight.*



A study of the accompanying carefully drawn diagram will show how these circles are produced by the reflections of the light of the pinhole from the sides of the barrels.

Gunmakers use a method of testing called "shading," which is applied by holding the breech a few inches from the eye and looking through the barrel at the top of a window-sash and seeing if its image has straight edges as it appears reflected along the sides of the interior of the barrels.

The choke of a gun, and the dimensions of any part of the bore, may be examined by long-legged calipers supplied with a spring and an index-gauge; or, by well oiling the interior of the barrel and then taking a plaster cast of it, on which measures can be made with a pair of vernier calipers.

CHOKE-BORED BARRELS.—It is not possible to state who was the first inventor of choke-boring. It is probable that one or another of the different modes of boring, which differ from that producing a plain cylinder, has been used from time to time during the past one hundred years; but it is certain that our countryman, Joseph W. Long, first called public attention to the excellence of the system of choke-boring. From this country the knowledge of its merits went to England, and now choke-boring is practiced by gunsmiths throughout the world.

* The reader may amuse himself with a few experiments which will make clear to him the philosophy of these methods of testing gun-barrels. Take two or three glass tubes about one-half inch in bore and eighteen inches long. One of these tubes should be as straight as can be selected at the glassware dealers. The other should appear evidently bent or curved. Cover the outside of these tubes with black varnish or cloth, so as to exclude the light. Close one end of each tube with a circle of card-board with a pinhole in its center. On looking through the tubes, you will see the circles concentric with the pinhole in the straight tube and eccentric in the curved ones.

As far back as 1787, M. Magné de Marolles, in "La Chasse au Fusil," gave an account of choke-boring. But he did not commend the system, which he thought, if advantageous, would greatly increase the recoil of the gun. Colonel Hawker, in "Instructions to Young Sportsmen," London, 1814, had very strong opinions against choke-bores. We next find mention of choke-boring in 1835, in Deyeux's "Le Vieux Chasseur."

Mr. Long, in his "American Wild-Fowl Shooting," N. Y., 1879, gives the invention of a really successful mode of choke-boring to Jeremiah Smith, of Rhode Island, who discovered its merits in 1827. From him it was learned by Nathaniel Whitman, of Mansfield, Mass., and the method was practiced by Joseph Tonks, of Boston, who, in 1870, made such a remarkably close shooting gun for Mr. Long that he informed his brother sportsmen of its remarkable power, and these choke-bores of Tonks came rapidly in favor with duck-shooters. In 1872, he explained this mode of boring to a gunsmith named Johnson, of Monmouth, Ill., who subsequently rebored to a choke the guns of many sportsmen. In 1872, Robert M. Faburn took out a patent for an expanding-bit, which gave to barrels a relief near the muzzle, producing what is known as the "jug," or "tulip choke." But Faburn's mode of boring was not that practiced by Tonks; the latter, Mr. Long says, bored his barrel a true cylinder from the breech to where the construction began near the muzzle. This is the mode of boring which Mr. Greener has claimed as his invention, and he no doubt invented it, but many years subsequent to Mr. Tonks's practice of it. Mr. Long states that Tonks's choke-boring doubled the closeness of pattern on the target at forty yards and increased its killing range by twenty-five yards.

The choke-bore now almost universally adopted by gunmakers is as follows: Taking a twelve-gauge gun as an example, the construction of the bore from the front of the breech-chamber to within one and a half inch of the muzzle amounts to about $\frac{1}{100}$th of an inch. At one and a half inch from the muzzle begins a sharp contraction which, in the length of one inch, equals $\frac{25}{100}$th of an inch. The last half inch of the bore is a true cylinder.

The guns usually used by sportsmen are of 4, 8, 10, 12, and 16 gauges. The charges of powder and shot with which these different gauges are loaded are as follows:

The four-bore gun is a single 44-inch barrel gun, weighing about

20 lbs. This gun is used in "point shooting" at ducks on the Chesapeake. It is charged with from 12 to 15 drams of powder, similar to Hazard's No. 5 or to Dupont's No. 1, and with 2½ ozs. of shot.

An eight-bore double-barrel gun weighs about 15 lbs., and is charged with 7 to 8 drams of powder and with 1⅝ to 1¾ oz. of shot. The powder used in this gun is similar in quality and texture to that used in the No. 4 gauge.

A ten-bore gun weighs about 10 lbs., and its load is from 4 to 5 drams of powder and about 1¼ oz. of shot. In this gauge, and in the twelve-bore, I have found that the best powder is one similar to Hazard's No. 4 duck-shooting powder.

A twelve-bore carries a charge of from 3 to 3¾ drams of powder, and from 1 oz. to 1¼ oz. of shot.

The sixteen-gauge is loaded with from 2 to 3 drams of powder, and with ¾ oz. to 1 oz. of shot. In this gauge of gun, use a powder like "Hazard's No. 4" or "Dupont's choke-bore" powder.

The charges of powder and shot which will give the best shooting of a given gun must be determined by the sportsman himself. The load depends on the weight of the gun, on the length and texture of the barrels, and on the manner in which these are bored.

To get the charge best suited to a gun, use the smallest quantity of shot that will give the desired closeness of pattern, driven with the largest charge of powder which, together with the load of shot, will give a recoil which will not produce any disagreeable effects on the shoulder, head, or eyes of the shooter. You will then have obtained the three conditions essential to the best shooting of this particular gun, viz.: First, such closeness of pattern that the game does not escape between the pellets; secondly, a high velocity in the shot, giving penetration and range*; and, thirdly, comfort to the shooter. To show how different guns of the same gauge may vary in their charge in order to produce accord in the above-named three conditions, we will cite experience with three twelve-gauge guns in our possession. They are of different weights, differ in the lengths of barrels, and they are bored differently. In order to get the conditions I have mentioned, one of them in the closest accord has to be charged with 3½ drams of powder and 1⅛ oz. of shot;

* The great advantage of the choke-bore is, that from the closeness with which it throws shot, the charge of the latter may be much reduced, when compared with the charge the cylinder-bore requires to give the same closeness of pattern.

the second, with 3¼ drams of powder and 1⅛ oz. of shot; and the third, with 3 drams of powder and 1 oz. of shot. The last gun gives the best results in the field.

The recoil of a gun is greater than one on first thought would suppose. If a twelve-gauge gun of 7½ lbs. weight is held against the shoulder with a pressure of 80 lbs., it will, when discharged with a load of 3¼ drams of powder and 1⅛ oz. of shot, give a blow of 30 lbs. to the shooter. A 16-gauge gun, with 2¾ drams of powder and 1 oz. of shot, will have a recoil of 20 lbs. above the 80 lbs. of pressure against the shoulder; while a 20-gauge, charged with 2¼ drams of powder and ⅞ of an oz. of shot, will give a push of 15 lbs. above the 80 lbs. of pressure against the shoulder. Often the recoil is such that, though not noticed after only a few shots, separated by considerable intervals, it becomes disagreeable, and even painful, to the shoulder, and especially to the head and eyes, after many shots have been made in rapid succession; therefore the sportsman, in adjusting his load for recoil, should consider whether he is to shoot only occasionally, as in the greater portion of the shooting over dogs, or whether he is to make a great many shots in rapid succession, as in shooting bay-snipe, rails, or, sometimes, in duck-shooting.

Whether the 10, 12, or 16 gauge is the best for upland shooting depends on the endurance and weight of the sportsman, on the distances at which shots are offered, and whether these are in the open or in covert. Taking the best performance of each of these gauges, the advantages of penetration, pattern, and range lie with the larger gauge. A 12-bore, taking all in all, is, in our opinion, the best for shooting over dogs, either in the open or in covert. Whether it shall have both barrels full-choked, or one barrel full-choked and the other either cylinder-bore or modified choke, and whether the barrels shall be long or short, depends on the kind of "shot" the sportsman is. In these matters he must, as in selecting the charges for his gun, decide from his experience what best suits him. To lay down laws on these matters to which all sportsmen should conform is evidently absurd. If a sportsman is slight of build and of moderate powers of endurance, let him select a light 12-gauge gun of 7 lbs. weight or a 16-gauge of 6 lbs. If his favorite sport is shooting Bob White and woodcock, and he can afford only one gun, then let him get a 16-gauge, of weight from 6 to 6½ lbs., with barrels of 26 inches in

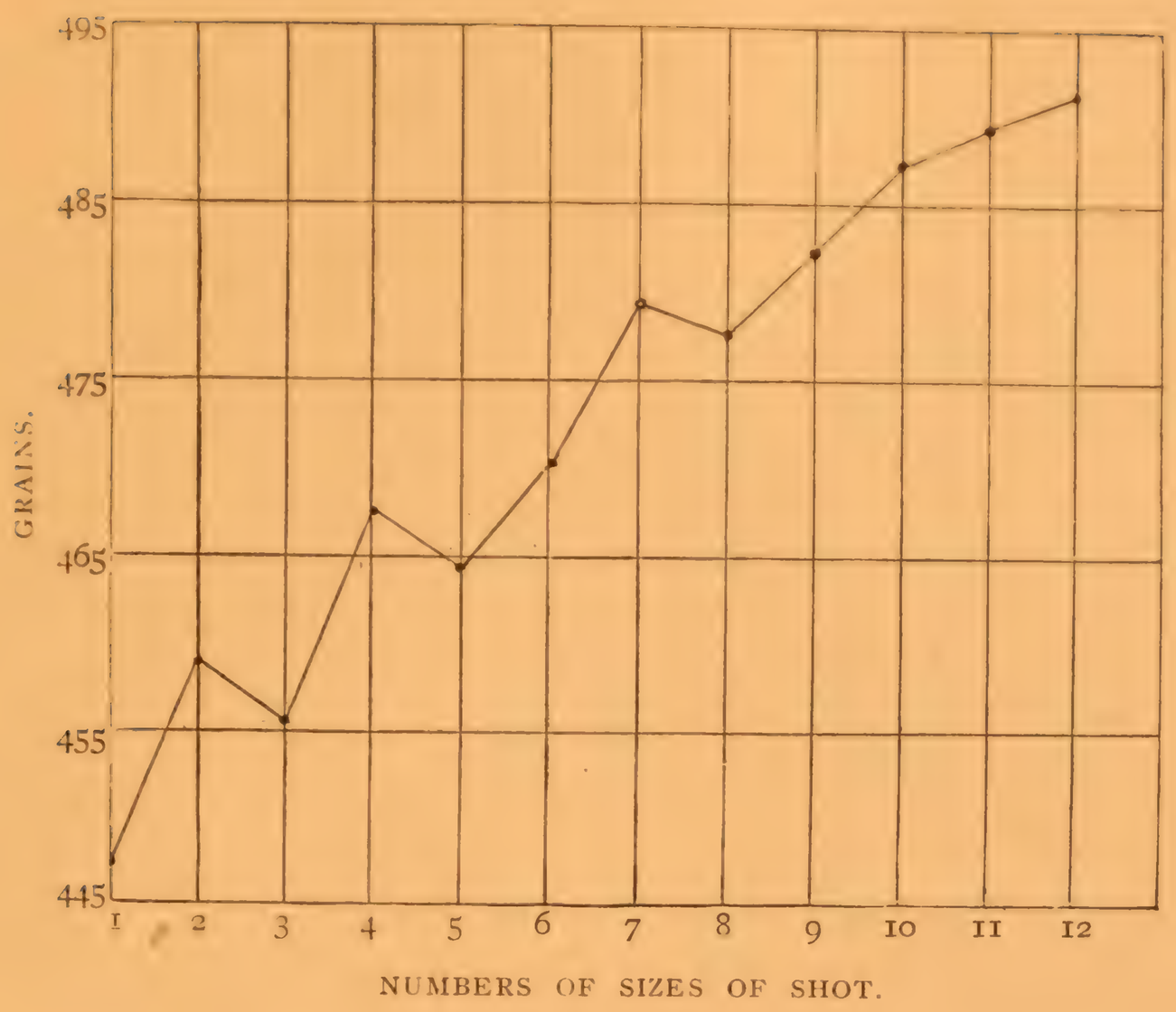
length. Let his first barrel be cylinder-bore and his second either a modified or full choke, and he will not go far astray.

In deciding whether he shall have a barrel full-choke, modified-choke, or cylinder, he should remember that a 12-gauge full-choked gun will put 200 pellets of No. 7 Tatham shot in a target 30 inches in diameter at 40 yards distant, while a cylinder barrel of same gauge will, in similar circumstances, put in 120 to 130; and also that the smaller gauges of 16 and 20 generally throw their shot sufficiently close and regular without any choke, or, at least, with very little. Indeed this, I infer, is the reason why these small bores were in such great repute among upland shooters before the introduction of choke-bored barrels.

The difference between carrying the weight of a 7½ or a 6 lb. gun, while trifling to some men, is to others the difference between weariness and cheerfulness.

Relative Weights of the same Measure of Different Sizes of Shot.—The amounts of powder and shot in the charges of guns are not weighed but measured. From time to time, discussions have arisen among sportsmen as to the relative weights of the same measure of different sizes of shot, and the subject is of sufficient importance to demand a careful examination. To get the weight of an ounce measure of each size of shot, I weighed, in an accurate balance, 50 measures-full of the given sized shot, and divided the weight by 50. The measure used is known as Dixon's, and is the one generally used by sportsmen. The shot used was of the American standard sizes, made by Tatham Brothers, to whom we are indebted for their courtesy in furnishing us with sizes made with new and carefully graduated sieves.

No. of shot.	*Diam. of pellet.*	*No. of pellets to 1 oz. of 437½ grains.*	*Wt. in grains of 1 oz. of Dixon's measure.*	*Excess of wt. of measured oz. over 437½ grs.*
1	0.16 inch.	71	447.1	9.8
2	0.15 "	86	459.0	21.5
3	0.14 "	106	455.5	18.0
4	0.13 "	132	467.7	30.2
5	0.12 "	168	464.3	26.8
6	0.11 "	218	470.4	32.9
7	0.10 "	291	479.2	41.7
8	0.09 "	399	477.7	40.2
9	0.08 "	568	482.4	44.9
10	0.07 "	848	487.5	50.0
11	0.06 "	1346	489.5	52.0
12	0.05 "	2326	491.3	53.8



In the above diagram are shown at a glance the relations between the 1 oz. measure full of shot of different sizes and their respective weights. The sizes of shot are given on the horizontal line and the weight on the left-hand vertical line. Each division of the vertical scale equals one grain in weight. It will be observed that the weight of the ounce measure full of shot increases with the smallness of the pellet. The irregularities from a smooth curve observed belonging to shot of the sizes 3, 5, 8, and 11, are due to the fact that the diameters of the pellets of these sizes are such that they do not chamber in the measure as closely as those of the other sizes.

This is at once seen in making the comparison of the chambering in the bottom of the measure of one layer of 2 and 3, 4 and 5, or 7 and 8.

This particular shot-measure gives too much weight for all the sizes. A measure of No. 1 shot is about 10 grains in excess of the ounce of 437½ grains, while a measure of No. 12 is 54 grains too heavy. The difference in the weights of a measure full of No. 1 and No. 12 is 44 grains; in other words, a measure of No. 12 shot weighs a little more than $\frac{1}{10}$ of an ounce more than a measure of No. 1, while the difference in weight of a measure of No. 7 and No. 12 shot equals about $\frac{1}{36}$ of an ounce.

EXPERIMENTS ON THE VELOCITIES OF CHARGES OF VARIOUS SIZED SHOT DISCHARGED FROM GUNS OF TWELVE AND TEN GAUGE, WITH APPLICATIONS OF THESE EXPERIMENTS TO THE ART OF SHOOTING ON THE WING.—In the year 1880, I made very many experiments on the velocity of fowling-piece shot that may be of interest to the sportsman, as they have given facts which lie at the foundation of the theory of shooting on the wing. The knowledge of these facts, while they may serve to guide the experienced sportsman in his shooting, will not make a crack shot, no more than an elaborate description of how to play on the violin will make a violinist. Practice alone will make a good marksman. The knowledge of the facts relating to the velocity of shot will, however, often serve to explain to the sportsman the causes of his failures to bring down birds on the wing, and may call his attention to defects in his style of shooting that practice may correct.

DESCRIPTION OF THE CHRONOSCOPE USED IN THE EXPERIMENTS ON THE VELOCITY OF SHOT, AND A DETERMINATION OF THE MAGNITUDE OF THE ERROR IN ITS RESULTS.—The chronoscope used in these experiments is very simple. It consists of a metal cylinder turning on an axle on which is cut a screw. This screw moves in a stationary nut, and this arrangement gives the cylinder a lateral motion when it is revolved on its axle. The cylinder is covered with fine printing paper, which is then smoked with burning camphor. A tuning-fork is screwed into one end of a thick piece of wood. The other end of this piece of wood is hinged to a base. To the end of one of the prongs of the fork is cemented with shellac a small, triangular piece of foil. The fork is vibrated by a bow, and then the hinged board is brought down against a stop so adjusted that the point of the foil on the fork just touches the smoked paper. On now turning the cylinder, a wavy trace will be written on it by the vibrations of the fork.

To determine the number of vibrations made in one second by the fork, a good clock, accurately rated, sent at each second an electric spark from an induction coil out of the tracing-point and through the paper. Thus the sinuous traces of the fork were punctured by electric sparks. The number of waves of the fork's trace contained between two of these punctures is the number of vibrations made by the fork in one second. A multitude of experiments showed that the range of the determination of the number

of vibrations per second of the fork was very small, and the means of several such measures did not vary from one another by more than one-tenth of a vibration, or, expressed in time, the variation did not surpass the $\frac{1}{2560}$th of a second. This fact showed that the chronoscope, so far as its records were concerned, was sufficiently constant and accurate for measures on the velocity of projectiles.

The effect of temperature on the vibratory period of the fork had been determined in a previous research. It amounts to an increase of .000045 of the periodic time of the fork's vibration for an increase of 1 deg. Fahr. in the temperature of the fork.

The guns used in the experiments had rebounding locks. The primary current of an induction-coil passed through a break-piece fixed under the rebounding hammer, so that at the instant the cartridge was exploded the electric current was broken and then immediately formed again. The current which passed through this break-piece was led by a wire to an upright piece of tin plate whose front surface leaned against a thick copper wire. Another wire led from the tin plate (which stood in a shallow trough of mercury) back to the battery. One terminal of the secondary coil of the inductorium is connected with the axis of the metal cylinder, the other terminal with the foot of the fork.

This chronoscope is worked as follows: One person vibrates the fork with a bow, and then brings the pointed foil down on the smoked paper and rotates the cylinder. While the fork is marking its sinuous trace he cries "fire," and the other person discharges the gun at the tin plate. At the instant the cartridge explodes, a minute spark issues from the tracing-point of the fork and cuts a small hole through the blackened paper in the sinuous trace of the fork; and when the tin plate is knocked over by the shot, another similar spark flies from the tracing-point.

We know the distance between the breech of the gun and the tin plate; the number of flexures in the trace of the fork contained between the two spark-holes gives the time the shot took to go over the known distance, whence the velocity of the shot per second is readily computed.

The fork used in these experiments made about 256 vibrations, or flexures, in the trace in one second; so, if there should appear 32 flexures between the two spark-holes, the record would give $\frac{32}{256}$ths, or one-eighth of a second for the time of flight of the shot from the

gun to the distant target. Two guns were used in these experiments, one of 12 the other of 10 gauge. They were "full choke-bored," and were choked exactly alike. They were made by the Colt Arms Manufacturing Co., of Hartford, Ct.

The following tables give the results of our experiments:

I. 10 Colt gun, 5 drs. Curtis & Harvey powder, 1¼ oz. shot.

Size of Shot.	*Vel. 30 yds.*	*Vel. 40 yds.*	*Vel. 50 yds.*
No. 1 buck	1153	1067	—
FF	1147	1132	—
BB	1146	1126	—
No. 3	1066	1015	928
No. 6	1012	963	859
No. 8	995	880	775
No. 10	908	803	716

II. 10 Colt gun, 4 drs. Curtis & Harvey powder, 1¼ oz. shot.

No. 1 buck	1067	1018	—
FF	1017	1009	967
BB	1000	967	897
No. 3	989	911	872
No. 6	966	883	806
No. 8	920	874	776
No. 10	848	756	669

III. 12 Colt gun, 3¼ drs. Curtis & Harvey powder, 1⅛ oz. of shot.

Size of Shot.	*Vel. 30 yds.*	*Vel. 40 yds.*	*Vel. 50 yds.*
No. 1 buck	—	—	—
FF	—	—	—
BB	862	795	667
No. 3	844	754	696
No. 6	825	739	600
No. 8	816	749	607
No. 10	796	680	610

IV. 12 Colt gun, 4 drs. Curtis & Harvey powder, 1¼ oz. of shot.

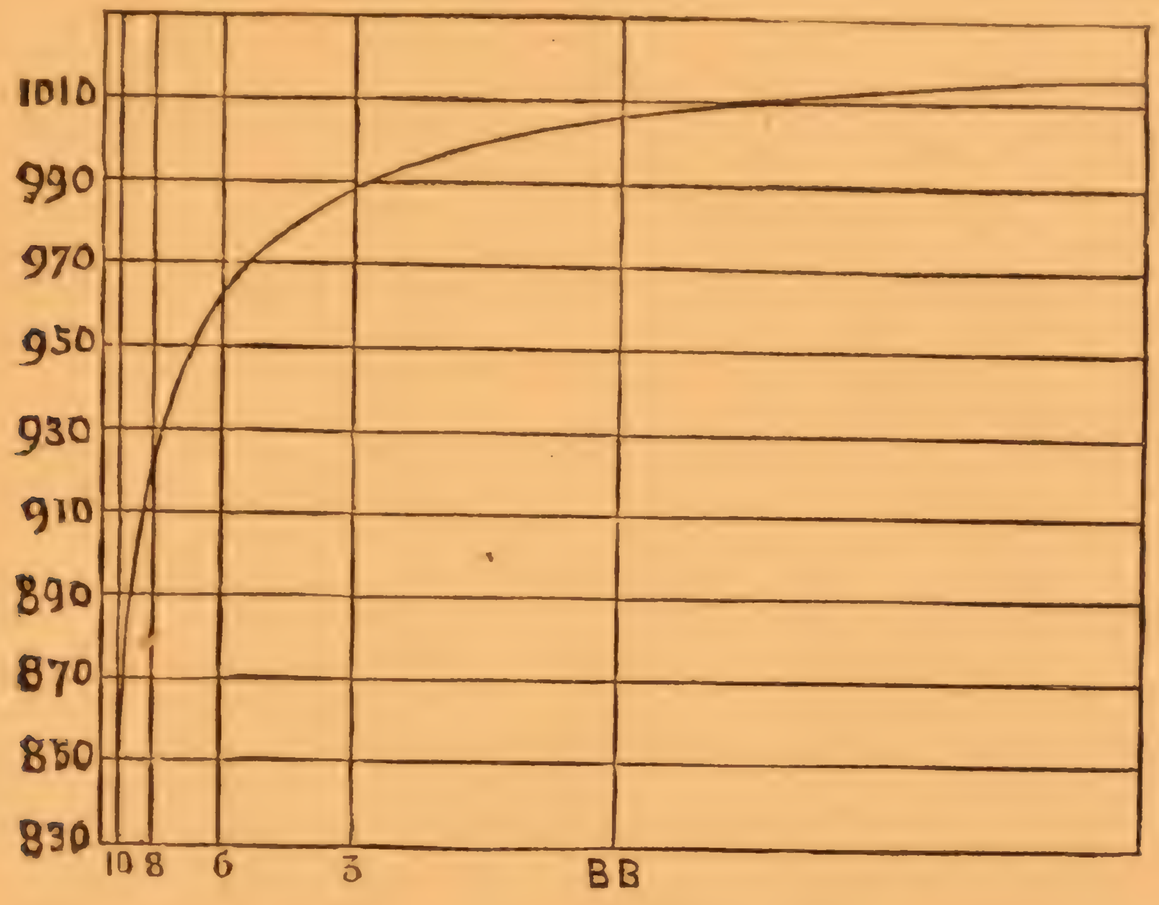
No. 8	847	722	671
No. 10	748	657	596

Each measure of velocity given in these tables is the mean value obtained from several experiments, varying in number from three to six. The headings, "velocity 30, 40, and 50 yards," mean that the numbers under them give the average velocities of the flight of shot over these distances, and not the velocities at 30, 40, and 50 yards from the gun.

It will be observed that the shot used were Nos. 10, 8, 6, 3, BB, FF, and No. 1 buckshot. They were so selected because a pellet of any number in the above series weighs very nearly double the preceding one. Thus, a pellet of No. 8 weighs double one of No. 10, a pellet of No. 6 weighs double one of No. 8, and so on. These relations of weight among the pellets were obtained so that I could readily reach the relations existing between the velocity of gunshot and the weight of the pellet. The shot used was kindly furnished me by Tatham & Bros., of New York, who used carefully gauged sieves in their manufacture. The powder used was

Curtis & Harvey's Diamond Grain No. 6. The powder and shot in each cartridge fired had been carefully weighed out in an accurate balance.

A glance at the tables at once shows the rapid increase in the velocity of gunshot from No. 10 up to No. 3. With the heavier pellets the increase in velocity is less marked. Thus the table



headed "10 Colt gun, 4 drs. Curtis & Harvey, 1¼ oz. shot" shows that No. 8 shot has 72 feet per second velocity over No. 10 shot, and No. 6 has 46 feet over No. 8, while No. 3 has only 23 feet over No. 6, and BB shot gains only 11 feet over No. 3.

The relations between velocity and weight of pellet shown in this table may be taken as a type of all the experiments, and I have graphically shown their relations in the accompanying curve.

The divisions on the scale, measured from the bottom line upward, give the velocity per second of the pellets. One unit on this scale equals 20 feet of flight of a pellet, and a unit of the scale, measured from right to left on the diagram, equals one unit of weight of pellet. The weight of a pellet of No. 10 shot is here taken as the unit of weight. The numbers of the shot are written under the horizontal line; the velocities on the vertical line. When the curve intersects these lines, we find the velocity given on the vertical scale corresponding to the number or weight of shot given on the horizontal line of the diagram.

So far as the experiments with these two special guns show, there is no doubt a great superiority in the 10 over the 12 gauge gun, when each is loaded with the same weight of powder and shot.

Thus, with the same charge of powder and shot, 4 drs. powder and 1¼ oz. shot, fired from the 10-gauge, gives a velocity of 100 feet per second more than that given by the 12-gauge. This fact is conclusively shown in the comparison of the figures in the two tables headed "10 Colt gun, 4 drs. C. & H. powder, and 1¼ oz. shot" and "12 Colt gun, 4 drs. C. & H. powder, and 1¼ oz. shot." The difference in velocity was in favor of the 10-gauge in each of the sixty separate experiments, which were made to get the numbers (contained in the above-mentioned tables) on the lines of No. 8 and No. 10 shot.

With No. 10 shot the mean velocity given by the 10-gauge gun over the first 30 yards is 848 feet. With the same charge in the 12-gauge the velocity is 748 feet, showing a difference of 100 feet in favor of the 10-gauge. With No. 8 shot the difference amounts to 72 feet. The average difference in favor of the 10-gauge in the flight of shot Nos. 8 and 10 over 40 yards amounts to 110 feet.

If we assume, as we certainly may without grave error, that the penetration of shot varies as the square of its velocity, these experiments will give the relative penetrations of the 10 to the 12 gauge about as 9 is to 7. These experiments show that the recent movement in favor of small-bore guns is one in the wrong direction. It appears that a 10-gauge gun, if of about 8 lbs. weight, would be the best fowling-piece for upland shooting.

That the 10-gauge shows such superiority over the 12 may be accounted for by the fact that the same charge occupies less length in a 10 than it does in a 12 bore, and hence there are fewer pellets in contact with the barrel of the former than of the latter to oppose by their friction the projectile force of the powder; and secondly, the powder in a 10-gauge is exploded nearer the center of its volume, and thus does not have so much chance of blasting before it the unburnt powder contained in the portion of the charge removed from the point of ignition.

I also venture to predict that with the same weight of barrels the 10-gauge will not heat as much as the 12, because the motion of the shot, lost by the greater resistance it opposes in a 12-gauge cartridge, must appear in the form of heat.

The third fact which these experiments show is that with 1⅛ oz. of shot and 3¼ drs. of powder an average velocity is obtained which requires 4 drs. of powder to give 1¼ oz. of shot a velocity equal to that given by 3¼ drs. to 1⅛ oz. Now, 4 drs. of powder, if not fired from

a gun weighing at least 9 lbs., and from a good, strong, muscular shoulder, is disagreeable. The effect on the body, and especially on the brain, is neither conducive to pleasant nor to good shooting. The number of pellets in a charge of 1¼ oz. of No. 8 shot is 499. In a charge of 1⅛ oz. of the same shot there are 449, therefore only 50 pellets more in a charge of 1¼ oz. than in a charge of 1⅛ oz.; and surely the want of the 50 will not cause a good shot to miss his bird with 449 pellets, nor will the addition of the 50 give a bad shot any more chance of bringing his bird to bag with his 499 pellets.

There are two styles of shooting on the wing. One is called "snap-shooting," where the shooter, on selecting the bird which he wishes to bag, quickly brings the gun to his shoulder and, at the instant it is in place, fires. If the bird is a cross-shot, he determines, at the moment of fire, the distance to which he should direct his gun ahead of its flight, this distance depending on the velocity of the bird's flight and on his distance from it. This manner of shooting is practiced the more generally by upland gunners in shooting quail, grouse, and woodcock.

The other style of shooting may be designated as "the swing-shot," in which the gunner swings his gun ahead of the cross flight of the bird till he attains the proper distance ahead of it, and then fires; but he keeps his gun moving, with a regular angular velocity, till after its discharge. This method of shooting is certainly the only one which has been found successful in the shooting of bay fowl, as ducks, brant, and wild geese. There are sportsmen who will contend that they merely follow the bird with the gun, and discharge it while it is pointing directly at the bird. I once put this opinion to the test in the following manner: Four willets came over the decoys, flying in line with a good speed. With my gun I followed the leading bird coolly and accurately, and kept the gun moving regularly after its discharge. Instead of killing the bird aimed at, the third from the leader dropped dead.

To give a rule applicable to all gunners, for the distance at which a gun should be held ahead of a bird in the "swing-shot," is not possible. Some sportsmen follow a bird, and then, after reaching before it the proper distance, suddenly stop the angular motion of the gun, and then fire. Others, after following the bird a short distance, give a quick, lateral motion to the gun, and then fire. Others,

again, bring the gun, with a lateral motion, ahead of the bird, and keep the gun moving till their experience decides the proper distance ahead of its flight, and then fire while the gun is keeping its previous regular angular velocity.

For the simple illustration of the bearing of these experiments on the art of shooting on the wing, I will suppose that, at the moment of fire, the gun is stationary; in other words, that we are firing "snap shots." If the bird has a velocity across the line of sight of 30 miles an hour (*i. e.*, 44 ft. per sec.), and we are using charges in a 12-gauge gun of 3¼ drs. of Curtis & Harvey powder and 1⅛ oz. of shot, we shall have to shoot about 5 feet ahead of the bird if it is flying at a distance of 30 yards; at 7 feet ahead, if at a distance of 40 yards, and 11 feet ahead of the bird, if at a distance of 50 yards.

These distances ahead, for cross-shots at birds flying at the rate of 30 miles an hour, may appear out of all reason with the experiences of many sportsmen; but a few simple experiments will convince them that they generally hold farther ahead of a cross-flying bird than they are aware. In the grass of a level field drive two twigs, far removed from fence-rails or any familiar object with which can be compared the distance separating the twigs; then bring your friend up to 40 yards distance of the twigs and ask him if he would hold ahead, by the distance separating the twigs, at a cross-flying duck going over the twigs. He will, in all probability, tell you, "Certainly, the twigs are only about 18 inches apart." Similar experiments made with rough sticks and branches suspended in the air at various distances have convinced me that it is very difficult to judge accurately of the actual distance you hold ahead of birds, especially when they are flying over water or in the open.

On the Form of the Charge of Shot Discharged from a Gun.—Does the shot discharged from a gun progress through the air in the form of a cylinder, a sphere, or in the shape of a spindle? We have made experiments which show that the cloud of shot as it passes through the air changes its shape as it goes from the muzzle to a distance, and that its general form is egg or spindle shaped. We regret that the experiments on this interesting and quite important subject of investigation have not been brought to the com-

pletion we desire before their publication. It may, however, interest our readers to know how one can see the form of the cloud of shot as it rushes through the air at the rate of 800 or more of feet in a second. It is viewed in the following manner: A disk of about 6 inches in diameter, formed of thin black paper, has cut in it one or more narrow, radical slits. The disk is set in rapid rotation, by means of clock-work, and the top of the disk rotates in a direction opposed to that of the charge of shot. On looking through the slit at a point on white background while the charge of shot is passing, one gets an instantaneous glance at the passing shot, which is of such short duration that all the shot appear stationary in the line of sight. By changing the position of the apparatus and the point at which you view the passing cloud of shot, you obtain views of its form at various distances from the gun.

In our experiments on the velocity of shot, the numbers given are those which refer to the pellets which first struck the target. A cross-flying bird shot at must be struck successively by pellets as it passes, and the killing power of a gun evidently depends on the form of the cloud of shot which it projects and high velocities given to the pellets forming the cloud of shot.

On the Fitting of the Gun to the Shooter.—There are two dimensions of a gun which must conform to the shooter, in order that he may shoot successfully and comfortably. These are the length of the stock, measured from the middle of the butt-plate to the front trigger, and the "drop" of the stock, or the distance from the upper edge of the toe of the butt to a straight edge laid on the rib of the gun and extending to the end of the butt. If the purchaser will try the fit of several guns of different lengths and drop of stock in the following manner, he may select one which will exactly suit him: Stand in front of a mirror placed flat against a wall. Throw the gun into position to aim at your right eye. If you now see your eye just above the rib, and also the upper surface of the rib of the gun, you may conclude—if the gun always comes into this position—that it fits you. That customers may select the gun best adapted to their use, gun dealers should have on hand one with a stock whose length and drop could be altered by means of screws or clamps.

Handling of Guns in the Field.—Always carry your gun pointing upward, and never, under any circumstances, hold your gun in any other position, except at the moment of bringing it into position to fire. Some sportsmen carry the gun pointing downward, and bring it into position at the shoulder by elevating the muzzle. This is not the proper way to bring a gun into position to get a rapid and sure aim; and also, it is evidently dangerous to sweep the muzzle of a gun from the ground upward just as you are about to take aim and to pull the trigger. Many accidents have occurred to fellow-sportsmen and to dogs by the finger inadvertently touching the trigger as the barrel is lifted into position. If the barrel is carried pointing upward and then dropped to the line of aim, the stock at the same time describes an arc upward, and falls naturally and easily into position inside of the shoulder. Keep your trigger finger under the guard till your gun is in position to fire.

Before jumping ditches or climbing over fences, put your hammers at half-cock. If carrying a hammerless gun, throw the safety-catch into action, then grasp your gun firmly in the right hand and hold it in a vertical position. In going through thick covert of briers, vines, or brush, put your hand over the hammers.

Withdraw the cartridges as soon as you have decided to shoot no more that day. If you carry a hammerless gun, let no one touch it till you have drawn the cartridges.

Boys and persons learning to shoot should not be allowed to carry in the field a loaded gun in the company of sportsmen till they have satisfied the sportsmen that they will carry their arms in a manner that will insure, as far as possible, freedom from accident to themselves and to their companions.

Care of Guns.—Always clean your gun after the day's shooting. Tow, crash, or flannel are good materials to wipe out the barrels with. If the air is dry and the powder is caked, a little moisture should be used on the wiper. Then dry the barrels thoroughly with dry wipes; then oil a *soft* iron brush, or ooo sand-paper backed with flannel, and get the lead out of the barrels; then wipe them dry and oil them and the outside of breech-action, locks, and stock. Before you put the barrels in the gun-case, close up the breech and muzzle with plugs made of flannel or cork saturated with purified sperm oil. If

your shooting has been in salt air, give your gun—after cleaning it—a thick coating of purified lard oil, such as is used in the light-houses, for this is the best lubricant to prevent the corrosive action of salt air.

The honey-combing of gun-barrels is caused by the residue, left by the exploded powder, setting up a galvanic action between the iron and steel composing Damascus and laminated steel barrels, or between the different grades of iron forming twist barrels. This fact I have proved by the following experiments:

A piece of "low-carbon" steel and a piece of soft iron were placed each in a separate vessel, containing a very dilute solution of sulphuric acid, or a solution of the residue from gun-barrels. It was found that each metal was acted on and corroded. But on placing the bars of iron and steel in the same vessel of dilute acid, and bringing in contact their upper ends which were outside the acid, it was observed that the iron now dissolved rapidly, while the steel was barely acted on. Moreover, on connecting the ends of the steel and iron bars with a galvanometer, we observed that an electric current was in action, and that the soft iron held the same relation to the steel as the zinc plate in a battery holds to the plate of copper, platinum, or carbon. On placing pieces of laminated and Damascus barrels in the dilute acid, they became honey-combed after a few days by the corrosion of the soft iron of the barrels, and reproduced the exact appearance of barrels honey-combed by ordinary use.

This honey-combing is therefore produced by a want of homogeneity in the material composing the barrels; and as it occurs even when the greatest care is taken to clean the barrels after each day's shooting, it appears that it can only be prevented by forming gun-barrels out of some substance which has the same structure and composition throughout all its mass—such as decarbonized steel or pure cast-steel. If aluminum could be obtained cheaply, it would make the best of barrels. Bulk for bulk, this metal weighs only one-third of steel, and there would be no difficulty in making the barrels thick enough to have sufficient strength. Aluminum bronze might be tried as a material for gun-barrels.



OUT OF DOORS

If I could put my woods in song,
And tell what's there enjoyed,
All men would to my gardens throng,
And leave the cities void.

— Emerson.



CAMPS AND TRAMPS ABOUT KTAADN.

By ARBOR ILEX.

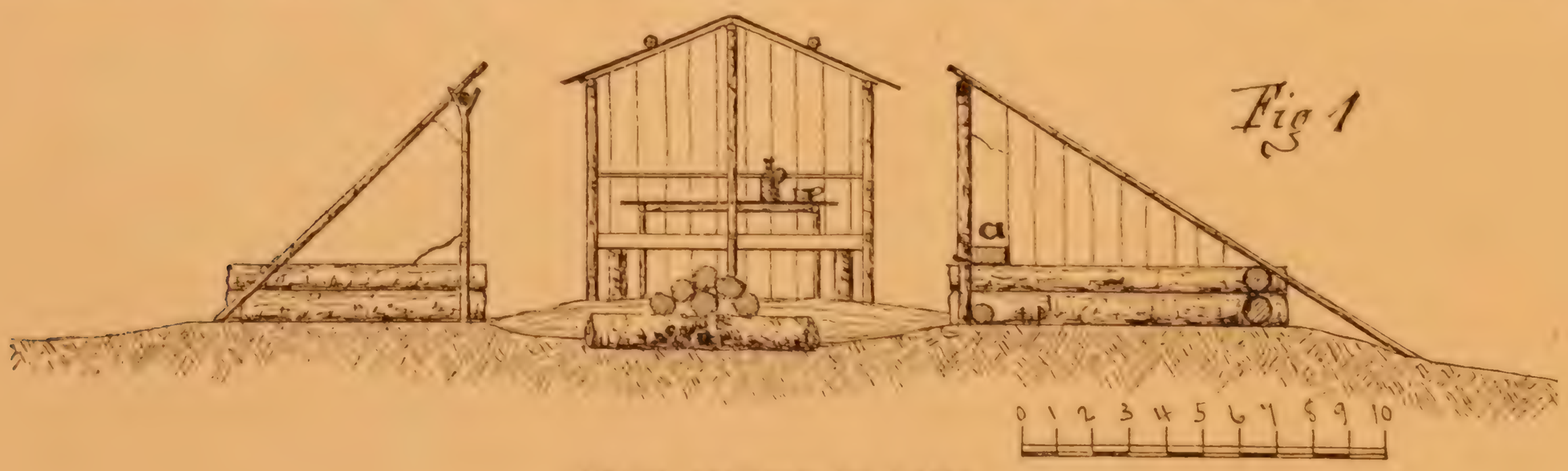
THAT noble mountain Ktaadn,* towering grand and peculiar out of the vast and undulating forest of northern Maine, its lofty head a pyramid with ragged apex as of a volcano, its ever luminous face looking serenely southward and mirrored in a hundred lakes, its huge body lying leagues along to the north and plowed into gorges by the glaciers of æons,—Ktaadn and its retinue of magnificent domes, sole representatives of the primal continent,—all these have been sung by the poet and portrayed by the painter.

Imagine that you are fifty miles from any railway, twenty-five from the nearest highway, and thirteen from a practicable footing for any apparatus of transportation other than human legs; that you have come to stay a month; that your party, some of whom are not strong, is to be wholesomely and plentifully fed, and protected against rain, frost, and probably snow; that the forest affords no other habitation or subsistence to you than to the wild animals about you; that game is uncertain, and fish, while large enough, indeed, to delight the sportsman, are not plentiful enough to insure subsistence;—fancy this, and you will indeed have come short of a lumberman's idea of roughing it; but you will have put yourself in a puzzle over two propositions—1st, as the woods provide little, much must be carried in; 2d, as little can be carried in, the woods must furnish much. The resultant of these opposed ideas may be expressed by

* The orthography—Ktaadn—is not that of the maps; the Maine State College people, who ought to be allowed to name their own mountains, insist upon "Ktahdin." But those eminent authorities, Thoreau and J. Hammond Trumbull,—the latter our best expert in Indian nomenclature,—prescribe the spelling here adopted.

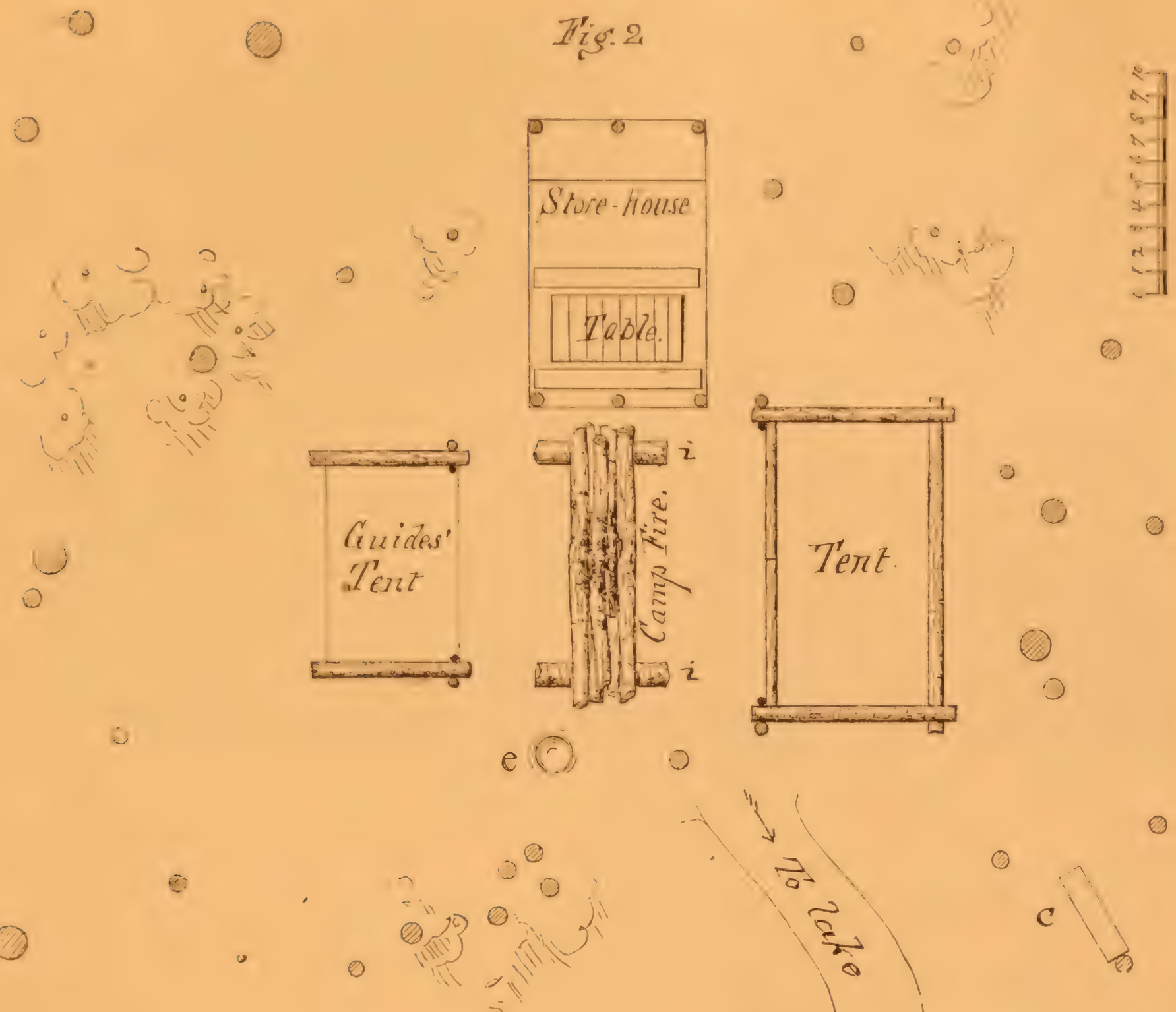
the following formula:—skill × pork + blankets = success. Skill, in the form of experienced and strong guides, transports itself and the other necessaries; pork means heat and tissue in the smallest compass; warm and water-proof clothing are obviously indispensable. Hard-bread, tea, sugar, and a few lemons (anti-scorbutic) are indispensable; beans, wheat flour, and baking powders, potatoes, rice, and a few raisins (a little sweet is so sweet in the woods), should be taken where transportation is not too difficult. Indian meal, canned meats and vegetables, and butter, furnish the means of occasional luxuries. With regard to spirits, rum is probably the best adapted, and, while a little is necessary in case of exhaustion or chill, and often has a hygienic importance, it is a very serious mistake, as the hardy lumbermen well know, to use it as a stimulant before exertion, or freely at any time.

The natural essentials of a permanent camp are, 1st, convenient proximity to water; 2d, a forest to shield the works from the sun, and the tents and the fire especially from heavy winds; 3d, a level bit of ground having as dry a nature as may be, and some natural drainage. The artificial essentials are, a camp-fire and a tent for the party and another for the guides. To this may be added a tent to be used for putting supplies out of the rain, and also for putting them out of sight. The working drawings and the night view so fully illustrate the arrangement and construction of our camp that little other description is required. Fig. 1 is a cross section through the center of tents and camp-fire. Fig. 2 is a ground plan and a horizontal section of the surrounding trees. Permanent tents are "logged" a foot or two high on three sides, and the ends are covered with thin boards split from white cedar logs, or with birch-bark or boughs. The roof is a piece of heavy cotton cloth soaked in brine to protect it against the sparks of the camp-fire, and



CROSS SECTION OF CAMP.

Fig. 2.



GROUND PLAN OF CAMP.

supported on poles. The front is quite open to the fire, not to speak of the rain. The ground forming the floor is smoothed off and covered thickly with small boughs of evergreen; upon these the rubber and woolen blankets which form the beds are laid. The "Deacon's seat," a, Fig. 1, answers almost every other purpose of domestic furniture. Our store-house and dining-room was constructed of round sticks, roofed and covered at one end with white cedar "splints." The wash-stand was at c; the bean-hole, e, will be further referred to. The camp-fire is laid on two "hand-chucks," i, i, or on two suitable stones, and consists of logs from four to fourteen inches in diameter and eight to fourteen feet long. Three-quarters of a cord of wood are burned per day. Lying in a three-sided tent, wrapped in blankets and water-proofs, with one's feet a length off from such a fire, is protection against any sort of bad weather, and yet it realizes every advantage of being out-of-doors. A temporary tent may consist of a mere cloth or of boughs laid upon inclined



NIGHT VIEW OF THE CAMP.

poles, or it may be logged or otherwise reënforced according to the weather. Smaller parties sometimes prefer the "A" tent. Works like ours may be built from standing trees, in a day or two, by three expert guides. Our camp was placed some thirty rods from Ktaadn Lake, and a good path was cut to it through the underwood.

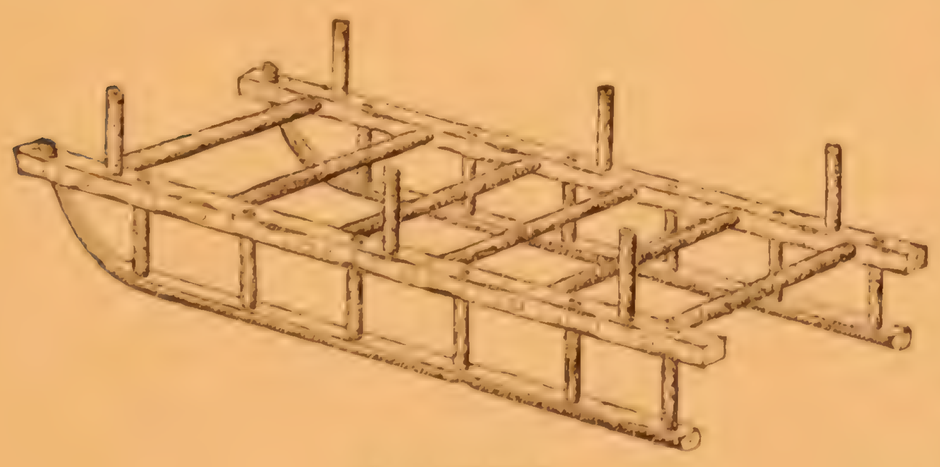
We are a party of six excursionists and five guides. Four of us are artists, whom we will call Don Cathedra, Don Gifaro, Herr Rubens, and M. De Woods. Two of us are professional men,—M. La Rose and myself, Mr. Arbor Ilex.

At 7 P. M., September 4th, we boarded an Eastern Railroad sleeping-car at Boston. We breakfasted in Bangor and dined in the village of Mattewamkeag, on the European and North American Railway, fifty-eight miles further, where we met our chief guide and bought our heavy supplies. Wedged with our *impedimenta* into two wagons, we jogged twenty-five miles to the northward, and slept in the outlying settlement of Sherman. On the bright morning of the 6th we and our roughing baggage were packed into a four-horse, springless wagon, with the running gear of a gun-carriage and the side-grating of a bear-cage. The significance of this construction soon became obvious. Upon driving some half-dozen miles to the eastward, we suddenly rose upon

a crest where Ktaadn and its retinue of lesser mountains burst upon our view,—a revelation of grandeur and beauty all the more impressive because the previous scenery had been so tame. At noon, away out beyond the precincts of permanent habitation, we had our first out-of-door dinner. Our sportsmen cast in Swift Brook for trout without success—it was a bad time of year; but a slice of pork toasted on a forked stick, a piece of hard-tack, and a cup of milkless tea were, thus early in our quest of healthy appetites, more palatable than a *ragoût* at Delmonico's. The excursionists, excepting myself, walked on; two guides and I stuck (with difficulty) to the wagon, upon a road consisting of a slit cut through a dense forest, over a tract of stumps, mud, thinly corduroyed swamps, and granite bowlders. The forest was broken only by "the farm" or "Hunt's," where hay and vegetables were raised in the early lumbering days, now a temporary habitation. Here, on the east branch of the Penobscot, I found our party fishing without success, but canoeing with great satisfaction. This whole territory, except a few tracts, was burned over forty years ago; some of the new growth is already good timber, and here and there a dead monarch stretches his huge form across our path.

A canoe ride two miles up the east branch was to me as delightful as it was novel. Our stalwart guide fairly lifted our larger "birch" with its four passengers over the shallower rapids. A short tramp through the forest brought us before sundown to our first encampment on the "lower crossing" of the Wasatiquoik, twelve miles from Sherman.

Next morning, the 7th, we witnessed the construction, in two hours, of a sled or "jumper," by means of an axe and a two-inch auger. At ten o'clock the baggage was bound to two jumpers and started off by four horses, our party of eleven, on foot, forming advance and rear guards. So we tramped over hill and occasional swamp, up the Wasatiquoik valley, stopping as much time as moving, occasionally holding the craft from capsizing, and prying her over fallen trees, stumps, and rocks. Much of the surface of the country is a mass of granite bowlders of



A JUMPER.



THE MISSING LINK.

every size. Where disintegrated stone and vegetable mold have accumulated for ages, the road is practicable for wagons; but on slopes, where the filling has washed out, it is amazing to see a horse get over it at all, especially when he has to drag soft wooden sled-runners over the serrated edges of big stones.

The rest of the road presented still steeper pitches, deeper bogs, and more entanglingly strewn rocks. One of our horses, a straggling, raw-boned "missing link," afforded us no little tugging and plenty of amusement, in our fruitless efforts to keep him right side up and his various members comparatively collected together. Along toward evening he quite abandoned the transportation business, flinging himself in wild gymnastics, and finally he slid off the side of a corduroy and sank up to his middle in the muck. After we had tugged at him for half an hour, during which time he maintained a strict neutrality, we convinced him, by means of a birch rod, that he must take a hand in the encounter, whereupon he roused up and floundered out. We waded the "upper crossing" of the Wasatiquoik at dusk, having traveled eight miles; the advance guard had already prepared a camp.

Next morning we got a fair start, and by noon had made the remaining five miles to Ktaadn Lake, which we should have done the day before. After we had pried our unfortunate horse out of several holes in the first mile of road, and the other one had shown

symptoms of collapse, we abandoned the jumper and sent the team back. Meanwhile, one horse of the other jumper having distributed most of his shoes and gone out of service, his companion dragged the vehicle alone up many steep pitches, and was only dismissed, with our blessing, when the jumper had left its starboard runner on a rock. So we had a chance to find out how wonderfully easier it is to walk light over bad roads than to lug twenty pounds of baggage. The guides spent the afternoon in "backing" in our wraps and a day's provisions. We dined by the dam at the foot of the little lake,—one of the many difficult but unremunerative works built a few years ago to "drive" logs,—and got into a temporary camp for the night.

The bean-hole, that principal base in camp topography, is made large enough to take in an iron pot; and when the hole is heated to a cherry-red by a big internal fire, and when the pot is filled with parboiled, yellow-eyed beans and a cube of pork with fat and lean in proper strata, and when the pot is set in the hole for the night and covered with coals, then begins a beneficent tissue-making alchemy which transmutes the humbler food into ambrosia fit for Mount Ktaadn, if not for Mount Olympus.

The fishing along shore now began to abound chiefly in chub, and Don Gifaro, the epicure, was beginning contemptuously to dub this ever-ready-for-breakfast fish as "Ktaadn trout," while at the same time Don Gifaro, the sportsman, was silently determining where the real "fish" lay. All in good time, an ancient and dilapidated raft was discovered, and as soon mounted by the Don, De Woods, and La Rose, who poled and paddled it with no end of work to the previously determined spot. After an hour's fishing, La Rose's bare hands taking the place of a landing-net, they returned laden with trout; seven fish weighed over ten pounds, and one was a three-pounder, twenty inches long. Meanwhile, a guide had shot a brace of partridges, and our style of living was rapidly assuming the Madison Square type. I give all concerned the benefit of two experiences I acquired this day: first, don't lay a trout in a frying-pan of red-hot fat with your fingers; second, when you do, get a distinguished artist to paint them with white lead and turpentine; it prejudices one against a warm tone in art, though the ultimate repose of the composition is charming.



KTAADN, FROM THE SOUTH SHORE OF THE LAKE

The mountain was now growing in our sight, and our artists were already making finished pencil studies and catching the ever-changing tints. Few views of mountains in any country exceed that from the southern shore of Lake Ktaadn, in combined grandeur and beauty,—the great pyramid, ten miles away on the left, ever changing in the varying moisture of air and shadow of cloud, brilliant and rosy in early sunshine while twilight still broods over the valley; each rock-rib, and rift searched out by the full blaze of mid-day, opalescent in the mistier air of afternoon, and then a harmonious mass of blended purple and blue outlined against the sunset and mirrored in the lake; its foreground a densely wooded plain of dark evergreens, broken here and there on the margin by tangled underwood of every hue of green, already richly flecked with autumnal color. In front, on the near opposite shore, abruptly rises Mount Turner,

its flanks dense with primeval hard-woods, the green interspersed with daily deepening red and yellow, and its summit a thicket of evergreens. Twenty miles away on the right, and most beautiful of all, the Traveler,—a flattened dome, rising higher than the loftiest peak of the Catskills, grand and symmetrical indeed, but lovely, as I see it far away in the soft, rosy sunset, when Ktaadn has put on the darker robes of evening. Such appears to be the view from our camp-shore; but as I look over my shoulder at the canvas of my cŏmpanion, I realize how inadequately it can be described in words.

Our life, pleasant as was its routine by day, was not mere



THE TRAVELER, FROM THE SOUTH SHORE OF THE LAKE.

sketching, fishing, and tramping. The evening meal, with its liberal fare and its rousing appetites, its jokes and its relation of the day's experiences, and then the lying at ease before the glowing camp-fire, with its pipes and punch and stories, and the dropping off of one and another in sweet, healthful sleep, without the formality of "retiring"—these are scenes of which the memories will last like those of Ktaadn itself.

On the bright, clear morning of the 14th, Don Cathedra, Rubens, and De Woods, with two guides bearing supplies, penetrated the trackless wilderness of Mount Turner,—a tangling and difficult progress through primeval forests, to gain what the Don had imagined to be the grandest view of Ktaadn. While the rest of us were consoling ourselves for our loneliness, about dark, with a rice pudding composed of two raisins to one grain of rice, and a ravishing sauce,—a thoughtful study by La Rose,—up rose De Woods in our midst, pale as an apparition. He had preceded and lost his party, ascended a peak of Turner, and being without provisions, descended



KTAADN FROM CREEK AT WEST END OF LAKE.

after four o'clock and waded a mile of lake to escape the entangling thicket of the margin.

The sunrise of the next day was like opening the book of Revelations. While everything was lying asleep in misty twilight, suddenly the lurking leaden clouds in the west blushed as the east flung them its salute across the sea, and wreathed themselves in rosy garlands upon the brow of the monarch. And then the monarch awoke, and rose up in the mirage, and bathed himself in the yellow light, till his crest was transmuted into gold, and his breast into leagues of pink coral, while every glory of the rainbow rolled down his gorgeous flanks as morning broke upon the plain.

The Mount Turner party returned next day, and told their stories over the evening camp-fire,—stories of hard struggles over wind-falls and through tangled underwood, of a few spoonfuls of water apiece on the mountain top, and of compensation for their troubles in the rare beauty of a primeval forest,—singular growths, dead trunks tumbled picturesquely together by the wind, great trees wreathing their roots around big bowlders cushioned all over with mosses, and little rivulets running out below, all variegated with the glistening white birch



WOOD INTERIOR ON MOUNT TURNER.

and the great bronzed and many-tinted leaves of the moose-wood. The Don pronounced the view of Ktaadn "grand, but not pictorial." When rallied about getting lost, De Woods simply told the story of the Indian found wandering to and fro in the wilderness, against whom a similar charge was made. "'Lost!" growled he; "Indian no lost, Indian *here;* wigwam lost."

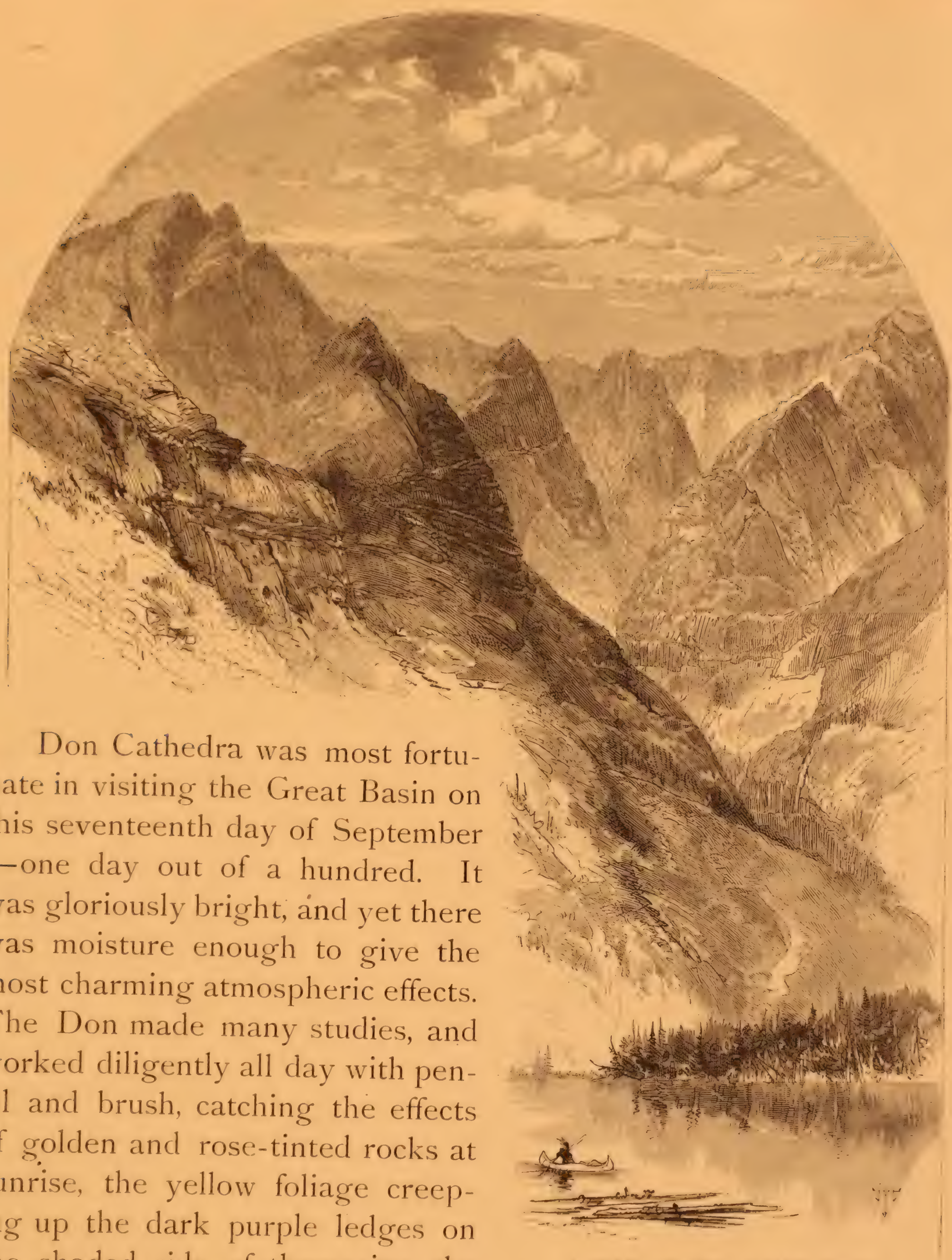
On the morning of the 16th, Don Cathedra and I, with two guides, started toward the Great Basin, lying in the mountain in rear of the pyramid. Two other guides had preceded us, with provisions for the whole party; they were to return the same day, and to go up with the others in the morning. I started earlier, not expecting to be able to make the whole ten difficult miles in one day; but after various halts, we reached the Basin at 5 P. M. and pitched our camp. Being too tired to sleep, I lay for hours in this solemn amphitheater, watching the moon-lit clouds drift over its ragged summit, but not yet appreciating its vastness and its awful grandeur, for the night was singularly mild, and there was no sound but the soft sighing of the wind in the evergreens, as an occasional current circled around the Basin. I was yet to hear the sounds and see the sights of that great gulf.

The first half of our journey was through a comparatively level country, over the remains of an old lumbering road. While there was much good walking, there were occasional swamps over which the footing of stumps and slippery logs was made still more precari-

ous by a low growth of shrubs which quite concealed it. Getting over these places brought a stress upon the temper as well as upon muscle and nerve. The remainder of the way to the Basin was chiefly a line of spotted trees, which gradually led up the lower flanks of the mountain, but wound in detail over steep pitches and through tangled thickets. There were occasional "wind-falls," which were difficult to penetrate or to get around, and where the blazed line was easily lost; and there were rocky stream-beds to be climbed on all fours. A point two miles from the Basin reveals a magnificent view, both of the mountain and of Ktaadn Lake and its surrounding hills. Much of the forest has been harmed by neither fire nor axe, and is full of beautiful pictures.

The body of Ktaadn extends, in bulk, some ten miles to the north of the pyramid. Its east side is gouged out in two enormous chasms —the Great Basin and the North Basin, the depth of which does not appear to the beholder from Ktaadn Lake. The Great Basin is a horse-shoe shaped gorge, some three miles in longest diameter and above a mile deep. Its floor is a plateau, a thousand feet above the general plain, embracing a forest and a little lake. The less precipitous northern lobe is divided from the southern by a "horse-back." The southern lobe of the Great Basin, not visible from Ktaadn Lake, is an amphitheater a mile in diameter. Its formation is not only magnificent, but surprising, in that it occupies the whole interior of the pyramid. The huge head of Ktaadn is hollow, but its hollowness only adds to its pictorial effect. It is the twofold wonder of our eastern scenery,—our grandest mountain inclosing our grandest gorge,—and so associating in one harmonious whole the effects of Sierra peaks with those of Colorado cañons.

At the foot of our camp is the little Basin Lake, a thousand feet long and half that width,—cold, clear, and azoic as the granite cliffs that rise out of its shore. Around it lie drift bowlders of every age, and huge rocks, split from the mountain, like monolithic houses tumbled together by an earthquake. Over the smaller *débris* many-colored foliage creeps up into the rifts, and towering above and beyond is the ragged granite precipice half a mile in sheer altitude. On such a grand scale is everything here that distances are deceptive. What was apparently a mere belt of trees on the opposite shore is a forest more than half a mile deep, through which we followed up a picturesque stream-bed to the foot of the cliffs.



A VIEW IN THE GREAT BASIN.

Don Cathedra was most fortunate in visiting the Great Basin on this seventeenth day of September —one day out of a hundred. It was gloriously bright, and yet there was moisture enough to give the most charming atmospheric effects. The Don made many studies, and worked diligently all day with pencil and brush, catching the effects of golden and rose-tinted rocks at sunrise, the yellow foliage creeping up the dark purple ledges on the shaded side of the ravine, the dim line in the atmosphere between the light and the shadow falling diagonally down the eastern cliff, the wild and ragged slides and stream-beds on the illuminated west slope, the picturesque foreground of autumn-tinted hard-woods and dark evergreens reflected in the lake— that wonderful association of grandeur in mass, with exquisite beauty in detail, such as one can rarely see among all our

Appalachian mountains. In the midst of our musings, suddenly an avalanche came tearing down the precipice—enormous rocks bounding from ledge to ledge, bursting and scattering as they struck, throwing out white clouds like cannon smoke, and finally lost in the crashing forest below. The long time occupied in the descent gave evidence of the enormous height of the precipice.

But the afternoon brought a rapid change of scene. As the party from Lake Ktaadn came straggling in, a storm—which can be so quickly brewed on a mountain-top—had no sooner thrown its shadow upon us than its substance followed in wind and rain, driving us into the little temporary tent while the guides were preparing a better one. During the intervals in the storm, our united exertions resulted, before dark, in a logged tent, well shielded and floored with boughs. We supped, and packed our supplies and ourselves into night-quarters during a drizzling rain, choked and blinded every few minutes by clouds of smoke, which the eddying wind flung in every direction, and secretly brooding, every one, over the probability that the equinoctial had caught us in that meteorological whirlpool, Ktaadn Basin.

At midnight, Pomola, the deity of this domain, who had so sweetly beguiled us into his den, gave us a taste of his wrath. Being at the tempestuous corner of the tent, I was roused from my dreams by a ripping and a snapping of things in general, and awoke to find the roof gone, the protecting boughs blown over, a torrent of rain pouring upon us, and the last embers of the camp-fire nearly extinguished. The guides' tent had quite disappeared in the gust. But before the general eye had perceived the situation, the ever-ready John had pulled back and fastened down our flapping roof, and given an impetus to the fire. Then there was a general re-adjustment in the tent; the edges of underlying rubber cloths were propped up so that water would not run in, and overlying wraps were ridged so that rain would run off. Always excepting that old campaigner, Don Gifaro—he wasted no time by waking up and fooling around in the dark. I got hold of the tea, and slept with it the rest of the night under my water-proofs, and somebody else did the same with the sugar.

Ascending the mountain was the prescribed work of the next day, and we made an early start. It soon became so warm that we



EAST BRANCH OF THE PENOBSCOT.

strapped our coats and waistcoats about our waists (the best way to carry weight, as John Gilpin knew), and scrambled up a dry stream-bed, over every form and size of rocky impediment, till we reached a "slide," which I supposed might conform to the angle of repose; but the unscientific way in which Ktaadn rocks will arrange themselves, overhanging rather than receding, I leave succeeding tramps to account for. It was a hard and exhausting scale, but by no means a harmful one, when there were plenty of rests. We ascended a slide in the north lobe of the Great Basin,—the lowest part of the mountain, and yet so high that lichens were the largest growths,—and there we found what is called the table-land, but which is, in fact, a gradual slope toward the west. Here Don Cathedra and his guide left us to explore the comparatively undiscovered North Basin, and we proceeded up a gradual but rugged incline, now through entangling shrubs, now over patches of huge rocks tumbled together, until we at last reached the summit of Ktaadn.

I have seen many stretches of splendid landscape from many mountain tops, but to my thinking the view from the top of Ktaadn is the most remarkable and the most beautiful I have ever seen. It was, on this peculiarly bright day, a panorama of exceeding splendor. The groundwork of the whole visible landscape is a vast wooded plain, broken in the rear of Ktaadn by a few bold and picturesque

hills, bounded on the south-western horizon by the grand group of the White Mountains, and interspersed everywhere with innumerable shining lakes—Moosehead in the far distance, Chesuncook, a river expansion, Millinocket with its hundred islands; and on the other side, our own little Ktaadn Lake, and Mount Turner and the Traveler looking so small from our towering height.

The night of the 20th was a memorable one. Don Gifaro, Rubens, and De Woods were to leave us next morning, and we sat up talking over our adventures, and promising ourselves many happy returns, till the unprecedentedly late hour of ten o'clock.

The remaining days of our camping, although we could not get used to the vacant seats, were full of pleasant incidents. La Rose kept our table loaded with splendid fish, and Don Cathedra and I sketched from morning till night, producing some of our finest studies. The Don manipulated the brush and the palette, to be sure, but as I held the umbrella and generally supervised the work, I feel justified in the foregoing use of the pronoun. The aspects of the mountain were now surprisingly various and beautiful. Our equinoctial storm was chiefly a wind storm. One day it drove the Great Basin all full of clouds, and they poured out of the apex like steam out of a volcano; and when they were luridly lighted by the setting sun, the scene was extremely wild and gorgeous.

And so, day after day, the mountain and the forest grew more beautiful. But the end must come; and on the 25th, with great reluctance, we broke camp and started back to Sherman *en route* for home.

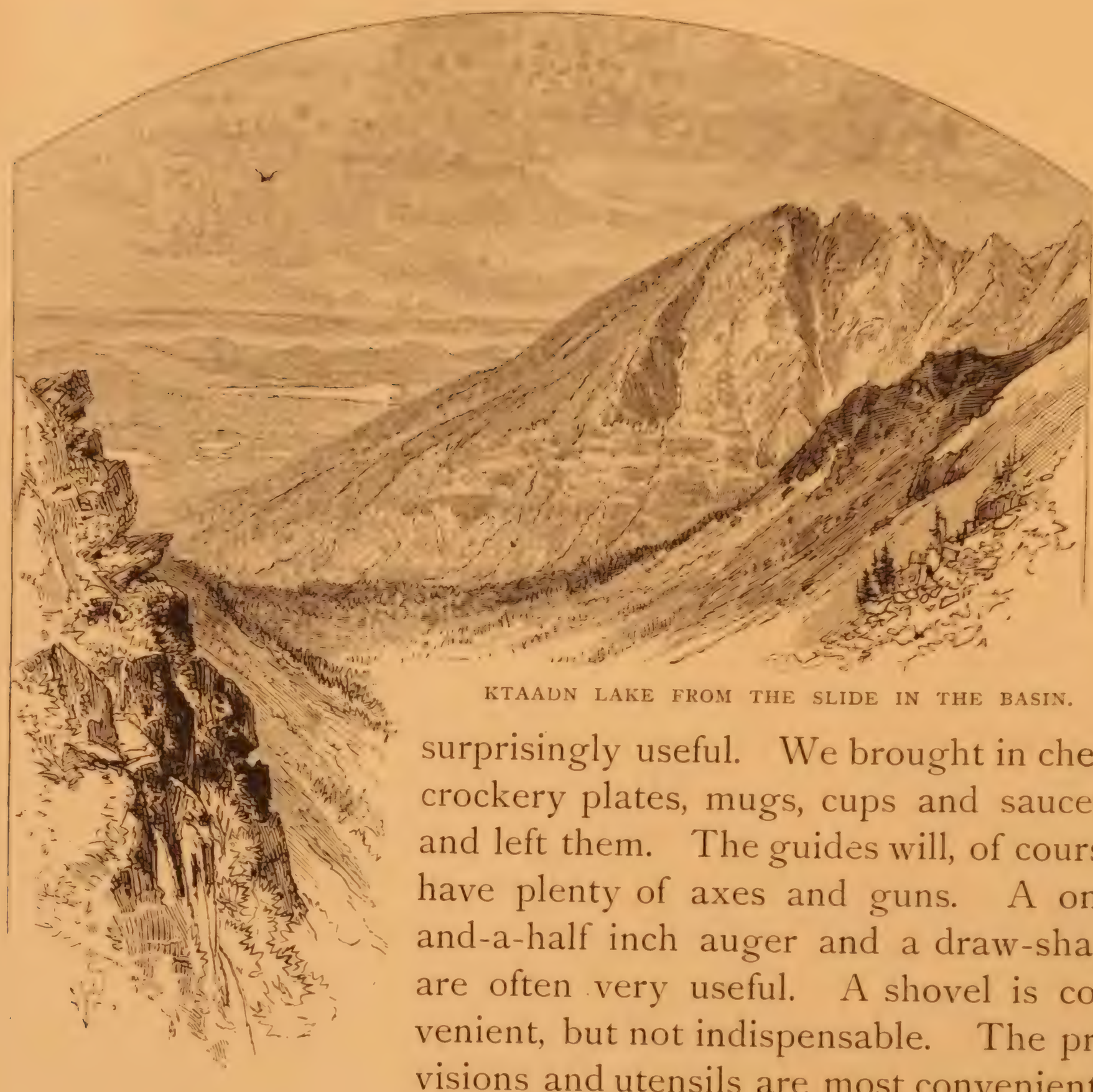
Our supplies for 11 men (6 excursionists and 5 guides) 16 days, and 5 men 5 days,=1 man, 201 days, were:

Mess pork	115 pounds	Rice	5 pounds.
Hard bread	80 "	Butter	5 "
Crackers	16 "	Raisins	5 "
Sugar (granulated)	80 "	Bread powders	3 "
Wheat flour	70 "	Tea	9 "
Indian meal	25 "	Canned meat	7 "
Beans	65 "	Lemons	8 "
Potatoes	180 "	Sundry preserves, etc	5 "
Ham	15 "	Fish, mostly trout (estimated)	100 "
Onions	10 "	Game	10 "
		Total	813 pounds.

This gives, say, four pounds of raw food per day per man. There was, of course, a large percentage of waste in its preparation and in its transportation from camp to camp. The cost of this raw food (excluding, of course, fish, game, and transportation) was sixty-five dollars, or thirty-two and one-third cents per man per day. Our bill of fare has included the obvious simple and the following compound dishes:

Crackers, dampened and fried in pork fat, with onions *(bisque à la Ilex);* fried cakes, of various mixtures of wheat and corn meal; Indian plum-pudding *(cauchemar);* rice-pudding, with raisins; raisin-pudding, with rice *(ex-cathedra);* baked pork and beans; canned meats warmed up with potatoes and cracker crumbs; eel-pie; partridge-soup and stew; duck-stew, and sauces of sugar, butter, and rum. As the guides were so constantly employed in arranging new camps and transporting supplies, they had no time to seek large game, although we saw both moose and caribou.

The necessary camp utensils (some of which most guides have on hand) for our number and our style of living are: An iron pot with overlapping cover, a tin tea-pot, two frying-pans, four tin pails, two of them having covers and removable wire legs (par-boiling vessels), the whole to pack in a nest; a nest of four deep tin dishes or pans, the largest fifteen inches and the smallest ten inches in diameter, to be used as mixing vessels and platters; a tin baker, say 16 x 12 x 7 inches; a dozen of each of the following: tin pint cups, tin dinner plates, and cheap tea-spoons, knives and forks; three larger cooking spoons of different sizes, two butcher-knives, two tin wash-basins, a salt-box, a pepper-box, and a wire grid-iron. We did not have a camp-stove, which would have been a great convenience. The half of a stout barrel is good to keep pork in, and will also hold fish, game, etc., in separate birch-bark vessels. A birch-bark lined hole in the earth is a good store-room for meat. There should be plenty of dish-cloths and towels, and five pounds of bar soap. A can of kerosene and a student-lamp may be readily taken; a dozen candles are convenient, although the camp-fire furnishes the necessary illumination. No work nor amusement requiring a good light is attempted after dark. The matches should be distributed among the party, and each person should carry a few in a corked metal case. Some nails and tacks of assorted sizes prove



KTAADN LAKE FROM THE SLIDE IN THE BASIN.

surprisingly useful. We brought in cheap crockery plates, mugs, cups and saucers, and left them. The guides will, of course, have plenty of axes and guns. A one-and-a-half inch auger and a draw-shave are often very useful. A shovel is convenient, but not indispensable. The provisions and utensils are most conveniently transported in bags.

It is a great mistake to take other than stout clothing. Adaptation of clothing to the great variations of temperature may be readily made by "doubling up." The rubber cloth should be permanently lined with the half of one blanket to lie on, the other half of the blanket and the sides of the rubber cloth forming a cover. The foot of this bed should be made, by means of straps and buckles, into a bag, so that the occupant may roll about, bed and all, without pulling the clothes off or getting them wet when it rains. This bag of bedding, rolled into a bundle forms its own water-proof case. The clothing is transported in a rubber bag, made like a mail-bag, and having an inside flap. To this outfit each person will add the implements of his specialty. A few quires of heavy paper, both for wrapping and for preserving leaves, are of use to all. Pencils, pocket-knives, and such indispen-

sables, should be taken in duplicate. Climbing mountains and tumbling through thickets is pocket-picking business. The party should have a good field-glass, an aneroid barometer for measuring heights, and a pocket-compass.

The cost of the expedition (sixteen days in the woods) to each excursionist was $80.83.

The railway transportation was 47 per cent. of the whole expense. The distance from New York to Ktaadn by our route is exactly 600 miles.



HOW I KILLED A BEAR.

By CHARLES DUDLEY WARNER,

AUTHOR OF "MY SUMMER IN A GARDEN," "IN THE WILDERNESS," "BADDECK," ETC.

So many conflicting accounts have appeared about my casual encounter with an Adirondack bear last summer, that in justice to the public, to myself, and to the bear, it is necessary to make a plain statement of the facts. Besides, it is so seldom I have occa sion to kill a bear that the celebration of the exploit may be excused.

The encounter was unpremeditated on both sides. I was not hunting for a bear, and I have no reason to suppose that a bear was looking for me. The fact is that we were both out blackberrying, and met by chance,—the usual way. There is among the Adirondack visitors always a great deal of conversation about bears,—a general expression of the wish to see one in the woods, and much speculation as to how a person would act if he or she chanced to meet one. But bears are scarce and timid and appear only to a favored few.

It was a warm day in August, just the sort of day when an adventure of any kind seemed impossible. But it occurred to the housekeepers at our cottage—there were four of them—to send me to the clearing, on the mountain back of the house, to pick black-berries. It was rather a series of small clearings, running up into the forest, much overgrown with bushes and briers, and not unroman-tic. Cows pastured there, penetrating through the leafy passages from one opening to another, and browsing among the bushes. I was kindly furnished with a six-quart pail, and told not to be gone long.

Not from any predatory instinct, but to save appearances, I took a gun. It adds to the manly aspect of a person with a tin pail if he also carries a gun. It was possible I might start up a partridge; though how I was to hit him, if he started up instead of standing

still, puzzled me. Many people use a shot-gun for partridges. I prefer the rifle: it makes a clean job of death, and does not prematurely stuff the bird with globules of lead. The rifle was a Sharp's, carrying a ball-cartridge (ten to the pound), an excellent weapon belonging to a friend of mine, who had intended, for a good many years back, to kill a deer with it. He could hit a tree with it—if the wind did not blow, and the atmosphere was just right, and the tree was not too far off—nearly every time. Of course, the tree must have some size. Needless to say that I was at that time no sportsman. Years ago, I killed a robin under the most humiliating circumstances. The bird was in a low cherry-tree. I loaded a big shot-gun pretty full, crept up under the tree, rested the gun on the fence, with the muzzle more than ten feet from the bird, shut both eyes, and pulled the trigger. When I got up to see what had happened, the robin was scattered about under the tree in more than a thousand pieces, no one of which was big enough to enable a naturalist to decide from it to what species it belonged. This disgusted me with the life of a sportsman. I mention the incident to show that, although I went blackberrying armed, there was not much inequality between me and the bear.

In this blackberry-patch bears had been seen. The summer before, our colored cook, accompanied by a little girl of the vicinage, was picking berries there one day, when a bear came out of the woods and walked toward them. The girl took to her heels and escaped. Aunt Chloe was paralyzed with terror. Instead of attempting to run, she sat down on the ground where she was standing, and began to weep and scream, giving herself up for lost. The bear was bewildered by this conduct. He approached and looked at her; he walked around and surveyed her. Probably he had never seen a colored person before, and did not know whether she would agree with him; at any rate, after watching her a few moments, he turned about and went into the forest. This is an authentic instance of the delicate consideration of a bear, and is much more remarkable than the forbearance toward the African slave of the well-known lion, because the bear had no thorn in his foot.

When I had climbed the hill, I set up my rifle against a tree, and began picking berries, lured on from bush to bush by the black gleam of fruit (that always promises more in the distance than it

realizes when you reach it), penetrating farther and farther, through leaf-shaded cow-paths flecked with sunlight, into clearing after clearing. I could hear on all sides the tinkle of bells, the cracking of sticks, and the stamping of cattle that were taking refuge in the thicket from the flies. Occasionally, as I broke through a covert, I encountered a meek cow, who stared at me stupidly for a second and then shambled off into the brush. I became accustomed to this dumb society, and picked on in silence, attributing all the wood-noises to the cattle, thinking nothing of any real bear. In point of fact, however, I was thinking all the time of a nice romantic bear, and, as I picked, was composing a story about a generous she-bear who had lost her cub, and who seized a small girl in this very wood, carried her tenderly off to a cave, and brought her up on bear's milk and honey. When the girl got big enough to run away, moved by her inherited instincts, she escaped, and came into the valley to her father's house (this part of the story was to be worked out, so that the child would know her father by some family resemblance, and have some language in which to address him), and told him where the bear lived. The father took his gun, and, guided by the unfeeling daughter, went into the woods and shot the bear, who never made any resistance, and only, when dying, turned reproachful eyes upon her murderer. The moral of the tale was to be kindness to animals.

I was in the midst of this tale, when I happened to look some rods away to the other edge of the clearing, and there was a bear! He was standing on his hind-legs, and doing just what I was doing, —picking blackberries. With one paw he bent down the bush, while with the other he clawed the berries into his mouth,—green ones and all. To say that I was astonished is inside the mark. I suddenly discovered that I didn't want to see a bear, after all. At about the same moment, the bear saw me, stopped eating berries, and regarded me with a glad surprise. It is all very well to imagine what you would do under such circumstances. Probably you would'nt do it: I didn't. The bear dropped down on his fore-feet and came slowly toward me. Climbing a tree was of no use, with so good a climber in the rear. If I started to run, I had no doubt the bear would give chase; and although a bear cannot run down-hill as fast as he can run up-hill, yet I felt that he could get over this rough, brush-tangled ground faster than I could.

The bear was approaching. It suddenly occurred to me how I could divert his mind until I could fall back upon my military base. My pail was nearly full of excellent berries,—much better than the bear could pick himself. I put the pail on the ground, and slowly backed away from it, keeping my eye, as beast-tamers do, on the bear. The ruse succeeded.

The bear came up to the berries and stopped. Not accustomed to eat out of a pail, he tipped it over, and nosed about in the fruit, "gorming" (if there is such a word) it down, mixed with leaves and dirt, like a pig. The bear is a worse feeder than the pig. Whenever he disturbs a maple-sugar camp in the spring, he always upsets the buckets of syrup, and tramples around in the sticky sweets, wasting more than he eats. The bear's manners are thoroughly disagreeable.

As soon as my enemy's head was down, I started and ran. Somewhat out of breath, and shaky, I reached my faithful rifle. It was not a moment too soon. I heard the bear crashing through the brush after me. Enraged at my duplicity, he was now coming on with blood in his eye. I felt that the time of one of us was probably short. The rapidity of thought at such moments of peril is well known. I thought an octavo volume, had it illustrated and published, sold fifty thousand copies, and went to Europe on the proceeds, while that bear was loping across the clearing. As I was cocking the gun, I made a hasty and unsatisfactory review of my whole life. I noted that even in such a compulsory review, it is almost impossible to think of any good thing you have done. The sins come out uncommonly strong. I recollected a newspaper subscription I had delayed paying years and years ago, until both editor and newspaper were dead, and which now never could be paid to all eternity.

The bear was coming on.

I tried to remember what I had read about encounters with bears. I couldn't recall an instance in which a man had run away from a bear in the woods and escaped, although I recalled plenty where the bear had run from the man and got off. I tried to think what is the best way to kill a bear with a gun, when you are not near enough to club him with the stock. My first thought was to fire at his head; to plant the ball between his eyes; but this is a dangerous experiment. The bear's brain is very small; and, unless you hit that, the bear does not mind a bullet in his head; that is, not

at the time. I remembered that the instant death of the bear would follow a bullet planted just back of his fore-leg and sent into his heart. This spot is also difficult to reach, unless the bear stands off, side toward you, like a target. I finally determined to fire at him generally.

The bear was coming on.

The contest seemed to me very different from anything at Creedmoor. I had carefully read the reports of the shooting there; but it was not easy to apply the experience I had thus acquired. I hesitated whether I had better fire lying on my stomach or lying on my back and resting the gun on my toes. But in neither position, I reflected, could I see the bear until he was upon me. The range was too short, and the bear wouldn't wait for me to examine the thermometer, and note the direction of the wind. Trial of the Creedmoor method, therefore, had to be abandoned, and I bitterly regretted that I had not read more accounts of off-hand shooting.

For the bear was coming on.

I tried to fix my last thoughts upon my family. As my family is small this was not difficult. Dread of displeasing my wife or hurting her feelings was uppermost in my mind. What would be her anxiety as hour after hour passed on, and I did not return? What would the rest of the household think, as the afternoon passed and no blackberries came? What would be my wife's mortification when the news was brought that her husband had been eaten by a bear? I cannot imagine anything more ignominious than to have a husband eaten by a bear. And this was not my only anxiety. The mind at such times is not under control. With the gravest fears the most whimsical ideas will occur. I looked beyond the mourning friends, and thought what kind of an epitaph they would be compelled to put upon the stone. Something like this:

HERE LIE THE REMAINS
OF

_____ _____

EATEN BY A BEAR,
AUG. 20, 1877.

It is a very unheroic and even disagreeable epitaph. That "eaten by a bear" is intolerable. It is grotesque. And then I thought what an inadequate language the English is for compact expression. It would not answer to put upon the stone simply "eaten"; for that is indefinite, and requires explanation; it might

mean eaten by a cannibal. This difficulty could not occur in the German, where *essen* signifies the act of feeding by a man, and *fressen* by a beast. How simple the thing would be in German:

HIER LIEGT
HOCHWOHLGEBOREN
HERR —— ——
GEFRESSEN,
AUG. 20, 1877.

That explains itself. The well-born one was eaten by a beast, and presumably by a bear,—an animal that has a bad reputation since the days of Elisha.

The bear was coming on; he had, in fact, come on. I judged that he could see the whites of my eyes. All my subsequent reflections were confused. I raised the gun, covered the bear's breast with the sight, and let drive. Then I turned, and ran like a deer. I did not hear the bear pursuing. I looked back. The bear had stopped. He was lying down. I then remembered that the best thing to do after having fired your gun is to reload it. I slipped in a charge, keeping my eyes on the bear. He never stirred. I walked back suspiciously. There was a quiver in the hind legs, but no other motion. Still, he might be shamming; bears often sham. To make sure, I approached and put a ball into his head. He didn't mind it now; he minded nothing. Death had come to him with a merciful suddenness. He was calm in death. In order that he might remain so, I blew his brains out, and then started for home. I had killed a bear!

Notwithstanding my excitement, I managed to saunter into the house with an unconcerned air. There was a chorus of voices:

"Where are your blackberries?"

"Why were you gone so long?"

"Where's your pail?"

"I left the pail."

"Left the pail! What for?"

"A bear wanted it."

"Oh, nonsense!"

"Well, the last I saw of it a bear had it."

"Oh, come! you really didn't see a bear?"

"Yes, but I did really see a real bear."

"Did he run?"

"Yes; he ran after me."

"I don't believe a word of it. What did you do?"

"Oh, nothing particular—except kill the bear."

Cries of "Gammon!" "Don't believe it!"

"Where's the bear?"

"If you want to see the bear you must go up into the woods. I couldn't bring him down alone."

Having satisfied the household that something extraordinary had occurred, and excited the posthumous fear of some of them for my own safety, I went down into the valley to get help. The great bear-hunter, who keeps one of the summer boarding-houses, received my story with a smile of incredulity; and the incredulity spread to the other inhabitants and to the boarders as soon as the story was known. However, as I insisted in all soberness, and offered to lead them to the bear, a party of forty or fifty people at last started off with me to bring the bear in. Nobody believed there was any bear in the case; but everybody who could get a gun carried one; and we went into the woods armed with guns, pistols, pitchforks, and sticks, against all contingencies or surprises,—a crowd made up mostly of scoffers and jeerers.

But when I led the way to the fatal spot, and pointed out the bear lying peacefully wrapped in his own skin, something like terror seized the boarders and genuine excitement the natives. It was a no-mistake bear, by George! and the hero of the fight—well, I will not insist upon that. But what a procession that was, carrying the bear home! and what a congregation was speedily gathered in the valley to see the bear! Our best preacher up there never drew anything like it on Sunday.

And I must say that my particular friends, who were sportsmen, behaved very well, on the whole. They didn't deny that it was a bear, although they said it was small for a bear. Mr. Deane, who is equally good with a rifle and a rod, admitted that it was a very fair shot. He is probably the best salmon-fisher in the United States, and he is an equally good hunter. I suppose there is no person in America who is more desirous to kill a moose than he.

But he needlessly remarked, after he had examined the wound in the bear, that he had seen that kind of a shot made by a cow's horn.

This sort of talk affected me not. When I went to sleep that night my last delicious thought was: "I've killed a bear."

A FIGHT WITH A TROUT.

By CHARLES DUDLEY WARNER,

AUTHOR OF "MY SUMMER IN A GARDEN," "IN THE WILDERNESS," "BADDECK," ETC.

TROUT-FISHING in the Adirondacks would be a more attractive pastime than it is, but for the popular notion of its danger. The trout is a retiring and harmless animal, except when he is aroused and forced into a combat; and then his agility, fierceness, and vindictiveness become apparent. No one who has studied the excellent pictures representing men in an open boat, exposed to the assaults of long, enraged trout flying at them through the open air with open mouth, ever ventures with his rod upon the lonely lakes of the forest without a certain terror, or ever reads of the exploits of daring fishermen without a feeling of admiration for their heroism. Most of their adventures are thrilling, and all of them are, in narration, more or less unjust to the trout; in fact, the object of them seems to be to exhibit, at the expense of the trout, the shrewdness, the skill, and the muscular power of the sportsman. My own simple story has few of these recommendations.

We had built our bark camp one summer, and were staying on one of the popular lakes of the Saranac region. It would be a very pretty region, if it were not so flat, if the margins of the lakes had not been flooded by dams at the outlets,—which have killed the trees, and left a rim of ghastly dead-wood, like the swamps of the under-world pictured by Doré's *bizarre* pencil,—and if the pianos at the hotels were in tune. It would be an excellent sporting region also (for there is water enough), if the fish commissioners would stock the waters, and if previous hunters had

not pulled all the hair and skin off from the deers' tails. Formerly, sportsmen had a habit of catching the deer by the tails, and of being dragged in mere wantonness round and round the shores. It is well known that if you seize a deer by this "holt," the skin will slip off like the peel from a banana. This reprehensible practice was carried so far that the traveler is now hourly pained by the sight of peeled-tailed deer mournfully sneaking about the wood.

We had been hearing for weeks of a small lake in the heart of the virgin forest, some ten miles from our camp, which was alive with trout, unsophisticated, hungry trout; the inlet to it was described as stiff with them. In my imagination, I saw them lying there in ranks and rows, each a foot long, three tiers deep, a solid mass. The lake had never been visited, except by stray sable-hunters in the winter, and was known as the Unknown Pond. I determined to explore it, fully expecting, however, that it would prove to be a delusion, as such mysterious haunts of the trout usually are. Confiding my purpose to Luke, we secretly made our preparations, and stole away from the shanty one morning at day-break. Each of us carried a boat, a pair of blankets, a sack of bread, pork, and maple sugar; while I had my case of rods, creel, and book of flies, and Luke had an axe and the kitchen utensils. We think nothing of loads of this sort in the woods.

Five miles through a tamarack swamp brought us to the inlet of Unknown Pond, upon which we embarked our fleet, and paddled down its vagrant waters. They were at first sluggish, winding among *triste* fir-trees, but gradually developed a strong current. At the end of three miles, a loud roar ahead warned us that we were approaching rapids, falls, and cascades. We paused. The danger was unknown. We had our choice of shouldering our loads and making a *détour* through the woods, or of "shooting the rapids." Naturally, we chose the more dangerous course. Shooting the rapids has often been described, and I will not repeat the description here. It is needless to say that I drove my frail bark through the boiling rapids, over the successive water-falls, amid rocks and vicious eddies, and landed half a mile below, with whitened hair and a boat half full of water; and that the guide was upset, and boat, contents, and man were strewn along the shore.

After this common experience we went quickly on our journey,

and, a couple of hours before sundown, reached the lake. If I live to my dying day I never shall forget its appearance. The lake is almost an exact circle, about a quarter of a mile in diameter. The forest about it was untouched by axe and unkilled by artificial flooding. The azure water had a perfect setting of evergreens, in which all the shades of the fir, the balsam, the pine, and the spruce were perfectly blended; and at intervals, on the shore in the emerald rim, blazed the ruby of the cardinal-flower. It was at once evident that the unruffled waters had never been vexed by the keel of a boat. But what chiefly attracted my attention and amused me was the boiling of the water, bubbling and breaking, as if the lake were a vast kettle, with a fire underneath. A tyro would have been astonished at this common phenomenon; but sportsmen will at once understand me when I say that the water boiled with the breaking trout. I studied the surface for some time to see upon what sort of flies they were feeding, in order to suit my cast to their appetites; but they seemed to be at play rather than feeding, leaping high in the air in graceful curves, and tumbling about each other as we see them in the Adirondack pictures.

It is well known that no person who regards his reputation will ever kill a trout with anything but a fly. It requires some training on the part of the trout to take to this method. The uncultivated, unsophiscated trout in unfrequented waters prefers the bait; and the rural people, whose sole object in going a-fishing appears to be to catch fish, indulge them in their primitive taste for the worm. No sportsman, however, will use anything but a fly, except he happens to be alone.

While Luke launched my boat, and arranged his seat in the stern, I prepared my rod and line. The rod is a bamboo, weighing seven ounces, which has to be spliced with a winding of silk thread every time it is used. This is a tedious process; but by fastening the joints in this way, a uniform spring is secured in the rod. No one devoted to high art would think of using a socket-joint. My line was forty yards of untwisted silk upon a multiplying reel. The "leader" (I am very particular about my leaders) had been made to order from a domestic animal with which I had been acquainted. The fisherman requires as good a catgut as the violinist. The interior of the house-cat, it is well known, is exceedingly sensitive; but it may not be so well known that the reason why some cats leave

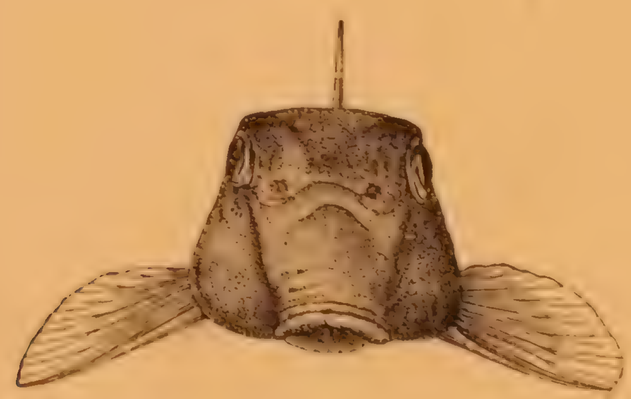
the room in distress when a piano-forte is played is because the two instruments are not in the same key, and the vibrations of the chords of the one are in discord with the catgut of the other. On six feet of this superior article I fixed three artificial flies,—a simple brown hackle, a gray body, with scarlet wings, and one of my own invention, which I thought would be new to the most experienced fly-catcher. The trout-fly does not resemble any known species of insect. It is a "conventionalized" creation, as we say of ornamentation. The theory is that, fly-fishing being a high art, the fly must not be a tame imitation of nature, but an artistic suggestion of it. It requires an artist to construct one, and not every bungler can take a bit of red flannel, a peacock's feather, a flash of tinsel thread, a cock's plume, a section of a hen's wing, and fabricate a tiny object that will not look like any fly, but still will suggest the universal conventional fly.

I took my stand in the center of the tipsy boat; and Luke shoved off, and slowly paddled toward some lily-pads, while I began casting, unlimbering my tools, as it were. The fish had all disappeared. I got out, perhaps, fifty feet of line, with no response, and gradually increased it to one hundred. It is not difficult to learn to cast; but it is difficult to learn not to snap off the flies at every throw. Of this, however, we will not speak. I continued casting for some moments, until I became satisfied that there had been a miscalculation. Either the trout were too green to know what I was at, or they were dissatisfied with my offers. I reeled in and changed the flies (that is, the fly that was not snapped off). After studying the color of the sky, of the water, and of the foliage, and the moderated light of the afternoon, I put on a series of beguilers, all of a subdued brilliancy, in harmony with the approach of evening. At the second cast, which was a short one, I saw a splash where the leader fell, and gave an excited jerk. The next instant I perceived the game, and did not need the unfeigned "dam" of Luke to convince me that I had snatched his felt hat from his head and deposited it among the lilies. Discouraged by this, we whirled about, and paddled over to the inlet, where a little ripple was visible in the tinted light. At the very first cast I saw that the hour had come. Three trout leaped into the air. The danger of this maneuver all fishermen understand. It is one of the commonest in the woods; three heavy trout taking hold at once, rushing in different directions, smash the tackle into

flinders. I evaded this catch and threw again. I recall the moment. A hermit-thrush, on the tip of a balsam, uttered his long, liquid, evening note. Happening to look over my shoulder, I saw the peak of Marcy gleam rosy in the sky (I can't help it that Marcy is fifty miles off, and cannot be seen from this region; these incidental touches are always used). The hundred feet of silk swished thrcugh the air, and the tail-fly fell as lightly on the water as a three-cent piece (which no slamming will give the weight of a ten) drops upcn the contribution-plate. Instantly there was a rush, a swirl. I struck, and "Got him, by——!" never mind what Luke said I got him by. "Out on a fly," continued that irrevent guide; but I told him to back water and make for the center of the lake. The trout, as soon as he felt the prick of the hook, was off like a shot, and took out the whole of the line with a rapidity that made it smoke. "Give him the butt!" shouted Luke. It is the usual remark in such an emergency. I gave him the butt; and recognizing the fact and my spirit, the trout at once sank to the bottom and sulked. It is the most dangerous mood of a trout; for you cannot tell what he will do next. We reeled up a little, and waited five minutes for him to reflect. A tightening of the line enraged him, and he soon developed his tactics. Coming to the surface, he made straight for the boat faster than I could reel in, and evidently with hostile intentions. "Look out for him!" cried Luke, as he came flying in the air. I evaded him by dropping flat in the bottom of the boat; and when I picked my traps up, he was spinning across the lake as if he had a new idea; but the line was still fast. He did not run far. I gave him the butt again; a thing he seemed to hate, even as a gift. In a moment the evil-minded fish, lashing the water in his rage, was coming back again, making straight for the boat as before. Luke, who was used to these encounters, having read of them in the writings of travelers he had accompanied, raised his paddle in self-defense. The trout left the water about ten feet from the boat, and came directly at me with fiery eyes, his speckled sides flashing like a meteor. I dodged as he whisked by with a vicious slap of his bifurcated tail, and nearly upset the boat. The line was of course slack; and the danger was that he would entangle it about me and carry away a leg. This was evidently his game, but I entangled it, and only lost a breast-button or two by the swiftly-moving string. The

trout plunged into the water with a hissing sound, and went away again with all the line on the reel. More butt; more indignation on the part of the captive. The contest had now been going on for half an hour, and I was getting exhausted. We had been back and forth across the lake and round and round the lake. What I feared was that the trout would start up the inlet and wreck us in the bushes. But he had a new fancy, and began the execution of a maneuver which I had never read of. Instead of coming straight toward me, he took a large circle, swimming rapidly, and gradually contracting his orbit. I reeled in, and kept my eye on him. Round and round he went, narrowing his circle. I began to suspect the game; which was to twist my head off. When he had reduced the radius of his circle to about twenty-five feet, he struck a tremendous pace through the water. It would be false modesty in a sportsman to say that I was not equal to the occasion. Instead of turning round with him, as he expected, I stepped to the bow, braced myself, and let the boat swing. Round went the fish, and round we went like a top. I saw a line of Mount Marcys all round the horizon; the rosy tint in the west made a broad band of pink along the sky above the tree-tops; the evening-star was a perfect circle of light, a hoop of gold in the heavens. We whirled and reeled, and reeled and whirled. I was willing to give the malicious beast butt and line and all, if he would only go the other way for a change.

When I came to myself Luke was gaffing the trout at the boat-side. After we had got him in and dressed him he weighed three-quarters of a pound. Fish always lose by being "got in and dressed." It is best to weigh them while they are in the water. The only really large one I ever caught got away with my leader when I first struck him. He weighed ten pounds.



HOW TO MOUNT A BIRD.

By FREDERIC A. LUCAS,

EX-PRESIDENT OF THE SOCIETY OF AMERICAN TAXIDERMISTS.

SHOULD you become the prey of a desire to mount some pretty songster, quaint owl, or swift-winged game bird that has fallen a victim to your skill, it is hoped that a careful perusal of this chapter will enable you to do so. First, however, experiment with a bird or two that you do not particularly care for before essaying your skill on one that you prize. In selecting a bird for your first trial, choose one of moderate size and comparatively tough skin. The robin, cow bunting, crow blackbird, and bob white are all pretty good subjects, while woodpeckers, cuckoos, and very large or very small birds are to be shunned until you have acquired some little experience. When you have acquired skill by practice, you will find among young birds and mammals some of the prettiest and quaintest subjects for your art. When setting out with the intention or expectation of securing birds for mounting, take with you a newspaper or two, a little cotton batting, and a pair of forceps. As soon as a bird is shot, plug the vent, nostrils, and mouth with cotton; also, treat any large shot-holes in the same manner, and transfer the bird, head downward, to a paper cornucopia of such length that you may twist together the open end without damaging the tail. If there is blood on the plumage, do not attempt to remove it until reaching home. The best thing in which to carry birds is a fish-basket, as in that they are not bent out of shape. Do not skin the bird as soon as it is shot, but wait a little

while, until the blood has coagulated. Before commencing operations, study the bird carefully; note where the wings lie when folded, mark how far forward and how low down are the knees, and, above all, notice the length of the bird. A very good plan is to gently stretch a bird to its utmost, and to make a mark at the tip of its bill and at the end of its tail, for future reference. Anything over this is, of course, wrong, and there are but few positions wherein this limit would be



READY FOR WORK.

reached. For skinning purposes, you need a scalpel or other small knife, a pair of sharp-pointed scissors, a knitting-needle, and a pair of small spring forceps; also, a dish of plaster-of-paris,—white corn meal may be used instead,—and either powdered arsenic or arsenical soap.* Cotton batting, of course, is included among the necessities.

* Which of these two may be the better is open to discussion, but I prefer to use the soap. Powdered arsenic, mixed with half its weight of powdered alum, is easily obtained, and does not soil the feathers if it comes in contact with them. On the contrary, it is not so penetrating as the soap, does not stick to the skin when it is at all dry, and at times dries the skin too rapidly. Arsenical soap is penetrating, keeps the skin moist, and acts as a lubricant when you are inserting the neck or turning the legs. Its one disadvantage is that you must use it carefully in order not to soil the feathers.



A TAXIDERMIST'S SANCTUM.

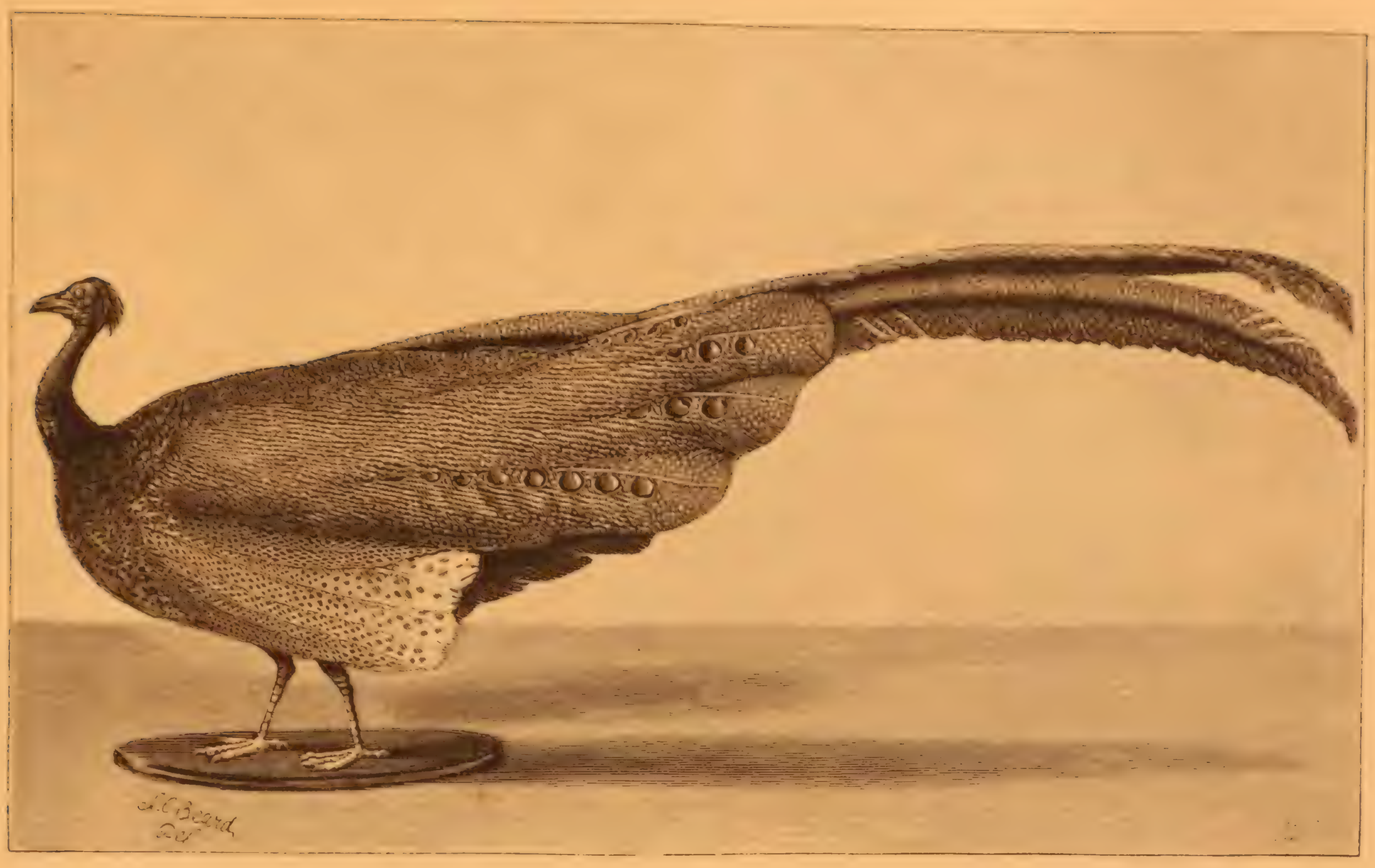
First cleanse off any blood stains by washing carefully with tepid water and drying with plaster of paris.* Be careful that you allow no plaster to "set" on the feathers, but keep them constantly moving, changing the plaster now and then, until quite dry. Renew the plugs of cotton in the vent, mouth, and nostrils, placing a little plaster in the throat before introducing the cotton, and also putting a pinch on each eye. Now lay the bird on its back, part the feathers on the under side down the center, and make a cut from near the upper end of the breast-bone to the vent, ending in it. Take care in doing this not to cut *through* the thin walls of the abdominal cavity; but if you are unlucky enough to do this, apply cotton and plaster liberally. Catch one edge of the cut skin with the forceps or finger tips, and work the butt of the scalpel between the skin and body so as to

* In this connection I give two recipes, which will be found useful. Bent tail and wing feathers may be straightened by dipping in hot water; or, better yet, by holding them in a jet of steam—only in doing this beware of steaming the skin, or it will shrink. To remove grease, wash with turpentine and dry with plaster. One drawback in using plaster is the difficulty of removing all traces of it; but by gently beating and dusting this can be accomplished.

push off the skin. From time to time put on a little plaster, to absorb the moisture from the body and to prevent the feathers from sticking to it. Work down until you reach the knee, when you push up the leg from without, insert the point of the scissors or scalpel under the bend, and cut through the joint. Continue to push up the leg and work down the skin until it is skinned as far down as possible. You will find the finger nails most useful for this purpose. Sever the tendons low down and tear off the muscles. Draw the leg back smoothly and skin the opposite one. Work the skin well away from the sides of the body and down to the base of the tail. Cut across the lower bowel, and, working the point of the scissors carefully under the lower part of the backbone, divide it just above the roots of the tail feathers. A bird's skin is very thin just at this particular point. The operation above described requires much care, and at first occasionally results in de-tailing the bird. Work the skin cautiously away from the lower part of the back, not pulling it, but pushing it gently or cutting carefully at its junction with the body. You may find it convenient at this stage to hang the bird from a hook suspended over your work-table; but after a little practice this will be necessary only with large birds. The skin will now peel easily from the body until the shoulder joint is reached, when, if the bird is small, you cut through the arm bone half way between shoulder and elbow, or, if the bird is large, disjoint it.* As soon as the wings are cut loose, the skin comes easily away from the neck, and from now onward it will be necessary to support the skin, as otherwise its weight, especially in a good-sized bird, would be apt to stretch the neck. You now come to the base of the skull, and here you will meet with more or less trouble, for generally it is hard to get the head through the neck. In fact, some birds, such as ducks, woodpeckers, and the like, have such large heads that it is impossible to skin them through the neck. In such cases, sever the neck close to the skull, and, turning the skin right side out, make a cut along the top and back of the head. Through this opening the skull may be readily skinned out. Usually, however, you can coax away the skin until the ears are reached, or, rather, the delicate membrane lining

* The arm bone must also be left entire if you wish to mount the bird with spread wings.


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ARGUS PHEASANT.*

the passage. Cut through this, as near the skull as possible, inserting the scalpel point under the front portion, and picking it out. Having done this, you come almost immediately to the eyes, and here it requires careful cutting to detach the skin without injury to the eyelid. Be careful also not to cut into the eyeball, and thus let the inclosed fluid out on the feathers. Skin well down to the base of the bill; if you do not, the place where you left off will be marked by an unsightly ridge in the mounted bird. Take out the eyes, cut off the base and under part of the skull, and most of the brain, together with the tongue, will come away with the neck. Scrape the meat from the jaw, and all is done save skinning the wings. It may be allowable in small birds to skin the wings to the wrists, detaching the secondaries from the bone; but although it saves a little time, I would not recommend it. The better way is to remove the muscle on the fore-arm with forceps, after having worked down the skin as far as possible on the front edge of the wings. Poison the skull thoroughly, and put a little cotton in the eye-sockets,—enough to fill, but not distend them,—also bringing a thin flap

* This illustration and the following were all drawn from specimens of the taxidermist's work.

down over the angle of the jaw. Now work back the skin until you can catch the tip of the bill, and, holding on by it, gently push back the skin with the finger tips until the bird is right side out again. Now poison the body thoroughly, either by shoveling in the dry arsenic and working it into every cranny of the neck, wings, and legs, or by pasting on arsenical soap.*

Get plenty of preservative on the roots of the tail, first removing the oil glands. Of course, the bird now looks a little mussy, but that is soon remedied. With the forceps or knitting-needle raise the feathers near the roots and let them drop into place. See that the wings and legs are not twisted. Insert the needle in the eye, run it between the skull and skin, and work the latter a little forward, for the chances are that the skin has been dragged backward in re-turning. Your bird is now skinned and lies before you ready for mounting, and for this you need certain materials and tools. The materials are: excelsior† for bodies, fine tow for necks and legs, and annealed iron wire of various sizes. Fine hay (rowen) or coarse tow makes good bodies where excelsior is not obtainable, and cotton may be used as a *very poor* substitute for tow. The necessary tools are: flat, round, and cutting pliers, a flat file, awls, a pair of eight-inch spring stuffing forceps, needles, thread, and pins. There are many other tools you will find handy; and among these I would strongly recommend a jeweler's vise having a hole running lengthwise through the handle. This is a most serviceable instrument for wiring birds' legs. Also, make yourself a few little pushers, by flattening one end of a wire six or eight inches long and filing a few notches in it. Bend the opposite end into a ring. Cut and straighten wires for the legs and body, making them amply long to allow for clinching and selecting wires for the legs sufficiently large to firmly support the finished bird. Sharpen both ends of the body wire and one end of the leg wires. The first step is to unite the wing bones with a thread, so that they are a little closer than they were originally. Fasten the thread to the bone toward the elbow, and not at the

* My own method of applying the soap is as follows: After getting the skin right side out, I poison the neck and wings. When the false body is inserted, I turn down the skin a little and poison all around it, and finally I poison the legs just after they have been wired and wrapped. Thus I lessen all chances of smearing the feathers.

† Excelsior is fine wood shavings, and can be obtained at any upholsterer's.



GREAT AUK, OR GARE FOWL.

upper, or free, extremity. If a bird is to be mounted with spread wings, the first move is to wire them, by entering a wire from the inside just under the elbow, running it along over the lower bone of the fore-arm, and continuing it on the under side clear to the tip of the wing, there bringing it out. Simple as a description of this operation appears, it is rather difficult to perform, and you must proceed slowly and carefully. Secure the wire to the upper arm bone just above the elbow, and again near its free extremity, and wind a very little tow around both. The wings are fastened to the body



SCARLET IBIS AND YOUNG CROCODILE.

in precisely the same manner as are the legs,—hereafter to be described,—only, of course, the wing wires must be clinched first. Avoid the common mistake of starting the wings from the sides of the body, and place them well up on the back.

Now, with the body of the bird lying before you, proceed to make one of excelsior to replace it. Note well the general shape of the natural body, but do not imagine that it is necessary to accurately copy it. Your work is to be externally and not internally correct, and what is wanted is the easiest and best method to make it fair to look upon. In ducks and water-birds generally the body is flattened from above downward; in waders it is flattened sidewise; while in most others it is rather rounded. Mold the excelsior between the palms of your hands, and wind it tightly with fine twine or stout thread, adding a little material here and there to bring about the desired shape. Let the finished body be smooth, a trifle narrower on the back than on the breast, and let it be a little more pointed at the tail than the original. Above all things, make it firm and hard, for on the solidity of the body depends the stability of the bird and its ability to undergo without flinching the twists and pulls it must undergo in posing. Try it in the skin, and if it does not fit, make any required alterations.



HOW THE WING IS WIRED.

Take the body wire, bend it like a U, with one long and one short leg, and thrust them through the body from the posterior end so that the long wire may come out a little above the center; twist the two ends together for a turn or two, and cut off the shorter end. Holding the body in your right hand, you twist around the pro-



YOUNG WATERFOWL.

jecting wire enough fine tow to form the neck. A little practice will give you the knack of doing this so that the neck will be hard and smooth. It should be a trifle larger—not longer—than the original, because the feathers will lie a little closer in the mounted than in the living bird, and yet their necks must be of the same size outwardly.*

If there is the slightest danger of the tow becoming loose, secure it by wrapping with fine thread; in fact, if you do this always, you will be saved much inconvenience and loss of temper. If your wire

* Herons and some other birds have flattened necks, which are made in the following manner: Wind a small neck on the body wire as above directed, and make a second roll on a separate and smaller wire. Uniting these two, you have a flat neck, which imitates the muscles and the wind-pipe.

is sufficiently long, it will project beyond the tow neck from one to three inches, according to the size of the bird. Insert this in the neck of the skin, and carefully work the body up into the skin and the skin down over the body, bringing the wire out through the crown of the head, or a little in front of it. Be careful when you do this that the skin on top of the head is not drawn backward; for if this happens, the wire will hold it there and an unnatural look be the result. You will find a perverse tendency of the wire, especially in long-necked birds, to come out through the side of the neck. Work the neck up into the skin until it meets the base of the skull, adjust the feathers a little, and proceed with the legs. Insert the wire in the sole of the foot, and with a twisting motion force it slowly up the back of the leg, past the heel,—too often called knee,—until the point has entered what was the fleshy part of the leg. Then turn the leg inside out so that the wire may not catch the skin, and pull it through with a pair of pliers. The chances are ten to one that, for the first few times, the leg wire will insist on catching in the heel-joint or coming through the skin just above it; but we will suppose that the leg has been safely wired and that the wire projects for a short distance above the bone. The muscles of the leg are to be replaced by fine tow—cotton will do for small birds, but not at all for large ones—wound on smoothly until the leg nicely fits the skin.

Observe that a bird's leg has a most graceful taper, like that of an Indian club, and that it does not start abruptly from the bone. In turning back the skin, be sure that you do not get a twist in the leg, a very common and vexatious occurrence. If a bird is to be made walking, one leg must be wired from above downward, the wire being made to follow along the middle toe and brought out at the first joint. Many taxidermists do not deem it worth while to wrap the legs of small birds, but I do it to the very smallest; if it does nothing more, it at least prevents the wire from coming in contact with the skin and possibly rusting through. Having made the legs, the next step is to secure them to the body, and this is done by thrusting the wires through it, bending them back, and finally clinching the points on the sides from which they started. Three points should be specially looked after: first, that the legs are solidly attached; second, that they are not too high up,—*i. e.*, too near the back,—and, third, that they are well forward. Most amateurs, and not a few pro-

fessionals, bring a bird's knees altogether too near his tail, the result being a very awkward-looking creature. As a rule, a bird's heels come about opposite the base of the tail. All birds of prey have the knees very free,—outside the body, as it were,—while just the reverse is true of swimmers and divers. Bend the legs backward,



OWLET.

see that they are of the same length, and adjust the feathers a little. With the long forceps and pushers, work some finely cut tow smoothly around the base of the skull and top of the neck. I have never seen this advised, and yet it is a very necessary proceeding in order to secure the best results. It is of special importance in mounting owls, in order to impart that roundness of the head so characteristic of those birds. You may also put a little filling in the upper throat. Turn the bird face downward, and with the thumb and finger lift up and work together the skin on the upper part of the shoulders and lower part of the neck, at the same time working the wings toward each other. It is well to repeat this operation from time to time, as a little attention here does much to prevent the bare spots on the sides of the neck from showing in the finished specimen. Bend a sharp-pointed wire into a T-shape, the point being on the upright portion, and run it through the base of the tail, just below the central feathers and well into the body. In doing this, be careful not to get the wire *between* the feathers; for if you do, nothing can induce the tail to spread evenly. In a living bird, the tail feathers are moved



HEAD OF SAIGA.

together, no one more than another; and it must be your aim to secure this beautiful uniformity. Now begin at the lower part of the opening and sew up the cut, inserting a little filling—cut tow—from time to time in such places as may want it. You will very likely need some around the base of the tail, and assuredly some around and above the knees, to imitate the thighs and join the legs smoothly to the body. Possibly there will be some wanted on the breast; although this will not be the case if you have made the body correctly. Do not be surprised if in sewing up the opening you cannot quite make the edges of the cut meet. The skin—especially of thin-skinned birds—dries and shrinks here very rapidly, and nature has kindly provided birds with feathers which conceal many of the shortcomings of the taxidermist. But in ducks and other birds with thick skins and short, dense feathers you must make both sides meet. Apparently, the bird is now nearly finished, but in reality it is very far

from completion. Your bird may be well wired, correctly put together, and smoothly filled, but if it is not placed in a proper attitude, all goes for naught. True, very much depends on all this preliminary work, and it needs to be thoroughly well done in order to make the mounted bird a success; but from now onward, every touch tells.



A SOUTH AMERICAN MONKEY.

Dress the feathers a little with your small forceps, catching them low down, raising them and letting them fall into place, or pulling them gently into position here and there as occasion may demand. Adjust the legs, bringing the heels a little nearer together than are the knees, while at the same time you put them at the proper distance from the body. In ordinary positions of perching birds, very little of the leg shows above the heel, while the heels themselves are brought near the body. The reverse of this is true in running and wading birds. A great deal, too, depends on having the proper angle between the tibia and tarsus, and you will soon discover that there is much power of expression in a bird's feet and legs. A very common mistake is that of making small birds stand too upright. Notice the sparrows as they hop about the street, or observe your pet canary, and you will see how a bird's legs should be placed. In parrots, the heel is usually below the line of the foot; and the owl shows his relationship with the parrot by bringing his heels so far backward and downward that only the feet project beyond the long, fluffy feathers of the breast. Many swimming birds, on the contrary, hold their legs almost as straight as sticks, the gull being an extreme case. When you are in doubt regarding a given point, consult a living bird and you will get much valuable information, not seldom some that is quite at variance with your pet theories. Having placed the feet, it is time to transfer the bird to a temporary

perch ; and be sure that the base to this is solid, and that the cross-bar is securely nailed on, so that you may twist your bird about without pulling your perch to pieces or tipping it over. If on standing the bird upright you find that the back is not round enough, or the breast too flat, or that you have omitted to put any filling in the



THE BELL BIRD, OR CAMPANERO.

sides,—and these mistakes frequently occur,—now is the time to remedy the deficiency. Make an incision, lengthwise of the body, under the wing, and with your little pushers introduce enough cut tow to fill the vacancy. At first the pushers will go awry and the tow roll into balls or work into the wrong place; but draw liberally on your stock of patience, and with a little practice all will go well. It is usually unnecessary to sew up the cut under the wing, as it is quite hidden; but if the bird be a good-sized one, a stitch or two may not be amiss. Bearing in mind the fact that a bird's neck is not straight, but a double curve like the letter S, you imitate this shape as follows: Bend the head and neck forward, and grasp the bird by the back with your left hand, the tip of the forefinger resting against the base of the neck. With the right hand press the head and upper neck back-



GOLDEN EAGLE.

ward, and the lower curve is made. In shaping the upper part of the neck, the mistake is frequently made of crooking the neck itself too much, whereas it should be curved but little, the effect being produced by bending the head sharply downward. If these instructions seem somewhat prolix, believe me they are not too much so, for a common fault of works in taxidermy is that they are deficient in detail and fail to draw attention to the little points whereon hinges the success of the completed work. Now see if the eyes are in the same plane, and not one higher than the other, and look to it that the center of gravity is all right. Your bird should look as if he were resting on perch or pedestal, and not as if he would pitch forward were the wires removed. Having settled these two points satisfactorily, proceed with the wings, the first step being to get their tips even. Living birds often carry their wings in a very slovenly manner, but they rarely have their tips out of line. The frequency with which one wing will insist on coming out wrong is more remarkable than amusing; and it occasionally requires the outlay of